

COST ANALYSIS FOR THE 1999 PROPOSAL TO ISSUE AND MODIFY NATIONWIDE PERMITS

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List of Acronyms

AED Average evaluation days

CWA Clean Water Act

FY Fiscal Year

GC General Condition
GP General permit
LOP Letter of Permission
NWP Nationwide Permit

PCN Pre-construction notification

RAMS Regulatory Analysis and Management System

RGP Regional general Permit

SP Standard Permit

TDML Total Daily Maximum Load

USEPA U.S. Environmental Protection Agency

EXECUTIVE SUMMARY

The US Army Corps of Engineers (Corps) issues two categories of Clean Water Act (CWA) Section 404 permit authorizations for discharges of dredged or fill material into "waters of the United States"—individual (standard) and general. The latter includes a set of "nationwide permits" (NWP) that authorize, on a national basis, discharges associated with certain categories of activities deemed to result in no more than minimal adverse effects on the aquatic environment.

On July 21, 1999 the Corps published in the *Federal Register* a notice of intent to issue 5 new and 6 modified nationwide permits (NWPs) to replace the existing NWP 26 when it expires. NWP 26 currently authorizes discharges into headwaters and isolated waters associated with a wide variety of activities. The proposed replacement permits each would apply to a specific category of activities, and would establish more restrictive terms for authorized activities, including lower impact limits and lower impact thresholds for determining when reporting to the Corps is required. The Corps also proposed to issue 3 new and 9 modified NWP general conditions that apply to broad sets of NWPs. The modified general conditions would establish certain new requirements for authorized activities. For example, one would require the establishment of vegetative buffers along open waters located in the vicinity of permitted activities. The proposed *new* general conditions would prohibit permanent above-grade fills in waters of the US within the 100-year floodplain, and discharges in "designated critical resource waters" and "impaired waters" (including adjacent wetlands).

Taken together, the proposed changes (or "replacement package") would affect permitting and associated regulatory costs for a large set of activities previously authorized under NWP 26 as well as other NWPs. The Fiscal Year 2000 Energy and Water Development Appropriations bill requires a study of the change in permitting workload and compliance costs that would result if the replacement package were implemented as proposed. This report presents an analysis of the permitting changes and incremental compliance costs resulting from the replacement package.

The replacement package is estimated to result in 4656 additional standard permit (SP) applications and 3051 net fewer NWP pre-construction notification (PCN) submissions annually. **The added SP applications would increase by about 50% the number of individual permit applications received by the Corps in fiscal year 1998 (FY 98)**. Approximately 65% of these permit shifts are due to the more restrictive terms established by the proposed replacement permits, and the rest are driven by the proposed new general conditions prohibiting fills within the 100-year floodplain, and discharges in impaired waters.

The estimated permitting changes would increase direct (cash) compliance costs by an estimated \$48 million annually. These direct costs reflect out-of-pocket expenses incurred by the regulated community to complete permit applications and comply with permit conditions, including required compensatory mitigation.

The replacement package would also impose indirect (opportunity) costs on the regulated community that are not reflected in out-of-pocket expenses. Two partial measures of indirect compliance costs were estimated. First, an illustrative estimate of development value foregone as a result of the new vegetative buffer requirement was developed for residential development activities (that accounted for approximately 16% of NWP 26 PCNs in FY 98). The buffer requirement is estimated to impose annual opportunity costs of roughly \$5 million on the residential development sector alone.

A second indirect compliance cost is the opportunity cost imposed on permit applicants that would result from increased permitting time. A permitting time analysis was used to predict systemic effects of the replacement package on the amount of time it takes the Corps to process SP applications, assuming that the Corps' annual permitting budget would remain roughly at the FY 98 level. The analysis suggests that the average time it takes the Corps to process a SP application, and the number of end-of-year pending (backlog) applications awaiting Corps processing, would rise steadily each year under the replacement package. In the second year under the new rules, average SP processing time and the number of backlog applications are predicted to reach twice their FY 98 levels. In year 5, processing time and application backlog would increase to 3-4 times the levels experienced in FY 98. While the opportunity costs associated with this increased permitting delay could not be assessed in dollar terms, these costs could potentially be a significant element of compliance costs resulting from the replacement package.

In principle, the additional permitting time costs could be avoided if the Corps' permitting budget were increased sufficiently. In other words, there is a likely tradeoff between the level of Corps budget for processing permits and the level of permitting time costs borne by the regulated community. The study estimated the increase in regulatory program budget that the Corps would need to implement the replacement package while maintaining current levels of permitting efficiency (i.e., permit application processing times). An estimated additional \$12 million would be needed annually, or 15% more than the Corps spent on processing permits in FY 98.

Finally, at the request of Corps Headquarters, the report also presents an analysis of permitting changes and associated compliance costs resulting from an alternative NWP replacement package. The alternative NWP package would not establish prohibitions on permanent above-grade fills in waters of the US within the 100-year floodplain, and on discharges in designated critical resource waters and impaired waters. The alternative package would establish impact limits of 0.5 acres and PCN thresholds of 0.10 acres for all replacement permits with proposed limits and thresholds.

In comparison with the proposed NWP replacement package, the alternative package would result in about 40% fewer SP applications, and about 30% less direct compliance costs. In year 5 under the alternative package, SP application processing times and backlogs would be about half that estimated for the proposed replacement package. The additional Corps regulatory program budget needed to maintain current levels of permitting efficiency under the alternative package is estimated to be about 50% less than that estimated for the proposed replacement package.

1. INTRODUCTION

1.1 BACKGROUND AND PURPOSE

The US Army Corps of Engineers (the Corps) is the chief administrative agency for the Clean Water Act (CWA) Section 404 program that regulates the discharge of dredged or fill material into "waters of the United States," which includes most wetlands and other "special aquatic sites." The Corps issues two categories of 404 permit authorizations--individual and general. The latter includes a set of "Nationwide Permits" (NWPs) that authorize, on a national basis, discharges associated with certain categories of activities deemed by the Corps to result in no more than minimal adverse effects on the aquatic environment.

On July 21, 1999 the Corps published in the *Federal Register* (64 Fed. Reg. 39252) a notice of intent to issue five new and six modified NWPs to replace NWP 26 when it expires. NWP 26 currently authorizes the discharge of dredged or fill material into headwaters and isolated waters, provided that the discharge does not result in the loss of greater than three acres of waters of the US or 500 linear feet of stream bed.

Unlike NWP 26, the proposed replacement permits would each apply to a specific type of activity, and most would authorize discharges in all non-tidal waters of the US except non-tidal wetlands adjacent to tidal waters. The replacement permits also establish more restrictive terms for authorized activities, including lower impact limits and lower thresholds for determining when pre-construction notification (PCN) (i.e., submission of a permit application) to the Corps is required. The purpose of the proposed replacement permits is to comply with CWA Section 404(e) which specifies that activities authorized under any one general permit must be similar in nature, and result in no more than minimal adverse effects on the aquatic environment.

In the same *Federal Register* notice, the Corps also proposed to modify nine NWP general conditions and add three new general conditions. These would apply to broad sets of NWPs, including the proposed replacement permits as well as other existing permits. The modified general conditions would impose miscellaneous new requirements for activities authorized under NWPs. For example, one modified general condition sets out new requirements for the establishment of vegetative buffers along rivers, streams, and other open water bodies located in the vicinity of permitted activities. The three new general conditions impose new prohibitions on discharges in designated "critical resource waters" and "impaired waters" (including adjacent wetlands), and on permanent above-grade fills in waters of the US within the 100-year floodplain. These proposed changes are all intended to provide greater protection for open and flowing waters, particularly water quality and aquatic habitat.

Taken together, the new and modified NWPs and general conditions (or "replacement package") would extensively change the existing 404 program with resulting effects on permitting and associated costs. The Fiscal Year 2000 Energy and Water Development Appropriations bill requires a study of the change in permitting workload and regulatory costs that would result if the replacement package were implemented as proposed. Specifically, the bill requires the Corps to "…prepare studies and analyses of the impacts on Regulatory Branch workload and on cost of compliance by the regulated community…." This report presents the results of a permitting and cost assessment prepared pursuant to the statutory charge.

The report is organized as follows: The remainder of this section briefly reviews the general assessment approach followed, the specific elements of the replacement package analyzed, and operational assumptions used to bound the analysis. Sections 2 and 3 review the methods and data used to estimate

permitting and cost changes, respectively. The study findings are summarized in Section 4. Appendices A-E provide more detail on the replacement package provisions and the methods, data, and assumptions used to assess permitting and cost effects.

1.2 GENERAL APPROACH

The analytical framework used in this study is presented in Figure 1.1. The framework includes two main parts: 1) Estimation of permitting changes resulting from the replacement package, and; 2) Estimation of unit changes in direct compliance costs corresponding to the estimated permitting changes. The permitting change analysis involves identifying those activities authorized in some base year under the current program that would have been required to obtain alternative or modified permits if the replacement package had been in effect at that time. The cost change analysis involves identifying differences in permit requirements and costs corresponding to each type of permit change identified. Estimated permit changes, by type, are then multiplied by their corresponding unit compliance cost changes to calculate incremental costs. Costs for each type of permit change are then combined to calculate total incremental direct costs of the replacement package.

Data on FY 1998 permit authorizations were used to implement the analysis. That is, the number and characteristics of activities authorized by NWPs in that year were used to characterize the analytical baseline (i.e., current program scenario) and to identify annual permitting changes and associated costs resulting from the replacement package.

1.2.1 Compliance Costs

Compliance costs incurred by the regulated community can be divided into two types: direct (cash) costs and indirect (opportunity) costs. Direct costs reflect the out-of-pocket expenses necessary to complete permit applications and comply with permit conditions, including required compensatory mitigation. The indirect costs of permitting represent other compliance costs that are not necessarily reflected in out-of-pocket expenses. These include permitting time costs and any development profits foregone as a result of the need to re-design projects or reserve portions of project areas for compensatory mitigation.

Both direct and indirect compliance costs would be expected to increase as a result of the replacement package. However, the assessment of compliance costs in dollar terms focused primarily on direct costs. While the importance of indirect costs is recognized, estimation of these costs is complicated by, among other things, the wide variability in the types and characteristics of potentially affected activities and the economic settings in which they occur. The data and level of analysis needed to adequately investigate indirect costs are beyond the time and resources available for this study. As a second best approach, two partial measures of indirect costs were estimated.

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¹ Environmental regulations often impose various direct and indirect costs (see: Jaffe et al., 1995).

Figure 1.1 Framework for Analysis of Permitting and Cost Changes

Permitting Changes

Unit Cost Changes

Current NWP Program Current NWP Program Replacement Package Replacement Package Characterize existing Characterize proposed Characterize permit Characterize permit permits, applicability and permits, applicability, requirements that requirements that major requirements and major requirements impose direct costs, impose direct costs, by permit type by permit type Characterize how Characterize actual Estimate direct costs Estimate direct costs permitting of FY 1998 permitting in FY 1998 by for a representative for the new and activities would have permit type and impact Standard Permit, modified NWPs been different if the size (and by activity for NWP 26, and other Replacement Package NWP 26) NWP, by impact size were then in effect Estimate permitting shifts and other Estimate the change in unit direct costs changes associated with moving from associated with each type of permitting the existing NWP package to the change resulting from the Replacement Replacement Package (e.g. shifts from Package (e.g. difference in permit costs NWP 26 and other NWP to Standard for a NWP 26 and a Standard Permit) Permit) Estimate the incremental change in annual direct costs associated with moving from the current NWP program to proposed replacement package. Calculate by multiplying

number of activities, based on FY 1998 activity levels, shifting from one permit type to another by the estimated differences in unit direct costs for those permit types. Sum

these calculations to estimate total incremental direct costs.

First, a permitting time analysis was used to predict systemic effects of the replacement package on the Corps processing of standard permit (SP) applications. The systemic effects would result in opportunity costs associated with increased permitting time. This analysis proceeded under the following assumptions: 1) Corps district regulatory branches are currently operating at full capacity, and; 2) Corps districts' annual permitting budgets would remain roughly at current levels. If these assumptions hold, then the increased permitting workload resulting from the replacement package would be expected to result in longer permit application processing times and higher application backlogs. These two indicators of permitting time were predicted for each of five years under which the replacement package would be in effect, based on the estimated increase in SP workload in those years.

Second, an illustrative estimate of development value foregone as a result of the new vegetative buffer requirement was calculated for residential development activities. These activities more than any other have traditionally relied on NWP 26, and thus might be the most affected by the new buffer requirements. This analysis was based on informed assumptions relating to the share of residential development activities required to establish buffers, land area of affected activities set aside for buffers, and the development value of affected lands.

1.2.2 Administrative Costs

The permitting time analysis outlined above assumed that Corps district permitting budgets would remain roughly at current levels, resulting in decreased permitting efficiency. In that case, increased permitting time costs (i.e. opportunity cost of permitting delays) would be forced on to the regulated community. This suggests there is a likely trade-off between permitting time costs borne by the regulated community and the level of the Corps regulatory budget available for processing permits.

In recognition of this possible trade-off, the study also developed an estimate of the additional Corps regulatory program budget (i.e., funding for added Corps regulatory staff) that would be needed for the Corps to implement the replacement package while maintaining current levels of permitting efficiency. The analysis of Corps administrative costs relied on an estimated equation relating annual district permitting budget to the number of each permit type processed in the Corps districts in FY 98.

1.3 SCOPE OF ANALYSIS

The proposed replacement package would change permitting in three main ways that are more costly for the regulated community and the Corps. First, some activities that previously used NWPs would not qualify for NWP authorization due to the terms established by the replacement permits, and prohibitions imposed by the new general conditions. These activities would instead be forced into the more time- and resource-intensive Standard Permit (SP) process. Second, some NWP activities that previously were not required to report to the Corps before proceeding would now have to submit a pre-construction notification (PCN). This essentially requires the submission of NWP application where none was formerly needed. Third, some NWP activities would now need to comply with certain new requirements imposed by the new and modified general conditions. The vegetative buffer provision of modified General Condition 9 is one such new requirement. The replacement permits and general conditions would affect permitting and costs for activities previously authorized under NWP 26 as well as other NWPs.

The analysis considered the most significant replacement package provisions in terms of likely permitting and cost effects. Those additional activities requiring a SP or PCN due to the terms of the replacement permits as well as the prohibitions imposed by General Condition 26 (impaired waters) and General Condition 27 (floodplains) were estimated. The incremental direct costs of these permitting changes were estimated, as were possible systemic effects of increased permit workload on the Corps permit application processing times and application backlogs. Finally, an estimate of vegetative buffer costs developed for residential development activities serves to illustrate the potential effects of buffer requirements on indirect compliance costs.

The possible effects on the regulated community and the Corps of other, less significant, replacement package provisions were not addressed by the cost analysis. For example, the analysis did not consider the effects on permitting and costs of the prohibition on discharges in critical resource waters imposed by General Condition 25. Nor did it estimate the extent to which activities formerly authorized under standard permits might now qualify for NWPs due to the expanded scope of waters applicable to the latter; these (likely very limited) permit shifts would produce savings in compliance and administrative costs. Lack of accounting for these provisions in the analysis is not critical since their effects on permitting and regulatory costs are likely much less significant than those provisions that were evaluated based on Corps district survey (see footnote 2).

1.4 STUDY ASSUMPTIONS

The analysis proceeded under several important operational assumptions. These relate to: 1) regional conditioning for the new and modified NWPs by Corps districts; 2) the option for individual Corps districts to implement alternative permitting approaches for activities that would otherwise be regulated under the replacement package, and; 3) the interface between the federal 404 program and related state and local programs.

The replacement package requires each Corps district to add district-specific regional conditions to the new and modified NWPs to ensure that authorized activities cause no more than minimal impact on the aquatic environment. At the same time, any Corps district could choose to implement alternative permitting approaches, including "Letters of Permission" or "Regional General Permits," for at least some activities that would otherwise be covered by the new and modified NWPs and general conditions. District-specific regional conditioning and substitute regulatory tools would of course alter the replacement package as implemented in different districts. For practical reasons, the cost analysis presented here did not consider regional conditioning or alternative regulatory approaches. It was instead assumed for analytical purposes that the replacement package would be implemented in the same form across all Corps districts.

The study also implicitly assumes that the existence of state and local regulatory programs will not affect the degree to which the replacement package would impose new compliance costs on the regulated community. Many states and localities administer their own regulatory programs for activities in aquatic environments. It is possible that some state and local programs already impose some of the same requirements on activities that would be newly required by the replacement package. To the extent that this is the case in some areas, then duplicate requirements mandated by the replacement package would not impose additional compliance costs in those areas. This possibility was ignored in the cost analysis.

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² Information on the relative importance of different provisions in terms of their likely effects on permitting and regulatory costs was gathered through a survey of eight Corps District Regulatory Branches. This was used to focus the analysis on the most significant provisions.

This study also did not consider potential differing interpretations and confusion on the part of other regulatory agencies regarding the replacement package that might result in additional compliance costs.

2. ESTIMATION OF PERMITTING CHANGES

The various ways in which the proposed changes considered here can affect 404 permitting are shown in Figures 2.1a-c. The figures indicate possible permitting effects on activities previously authorized under NWP 26, other NWPs, and SPs.

For the analysis of permitting effects, thirty-five districts provided permit-level data from the Corps Regulatory Analysis and Management System (RAMS) database for Fiscal Year 1998 (FY 98).³ Use of FY 98 permitting data to represent the current program scenario and to model the replacement program scenario assumes that the number and types of activities authorized under the program in that year are representative of those that will seek permit authorization in each year in which the replacement package would be in effect. The analysis also relied on the following simplifying assumptions:

- 1. Applicants whose activities qualify for a new or modified NWP would choose to pursue that type of permit authorization rather than go through the SP process.
- 2. Applicants whose activities were previously authorized under NWP 26 and would not qualify for any of the new or modified NWPs would instead apply for and receive SP authorization.
- 3. Applicants whose activities face a rebuttable presumption of more than minimal impact in order to qualify for a new or modified NWP would successfully rebut the presumption and obtain authorization under the NWP.

2.1 METHODOLOGY

An iterative methodology was used to estimate the effects of replacement package provisions on 404 permitting. The provisions considered in turn include: 1) the activity restrictions, impact limits, and reporting thresholds for the new and modified NWPs, and; 2) the prohibitions and reporting thresholds imposed by general condition 27 (floodplains) and general condition 26 (impaired waters). This methodology is briefly reviewed below and documented further in Appendix B.

2.1.1 Reported NWP 26 Activities

The flow chart in Figure 2.1a illustrates the iterative screening process used to examine how these replacement package provisions would affect permitting for reported activities authorized under NWP 26 in FY 98. Each authorization was classified into one of fourteen activity categories. These categories were used to determine which replacement permit would accommodate each authorized activity. For each authorization, the activity restrictions and impact limits for the relevant new or modified NWP were first used to determine whether that authorization would qualify for the NWP, or instead require a SP. If the authorization qualified for a NWP, the permit-specific reporting threshold was then used to determine whether or not that authorization would be required to submit a PCN.

³ Data for the Charleston and Honolulu districts were not available at the time of the study, and New England district does not utilize NWPs. Thus, these districts were not included in the analysis.

Figure 2.1a
Permitting Changes Involving FY 1998
Activities Authorized under NWP 26

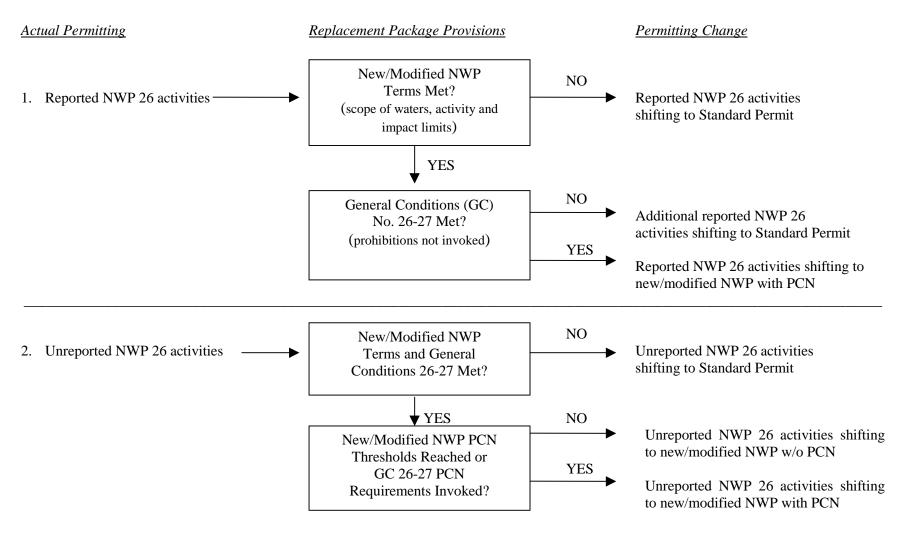


Figure 2.1b
Permitting Changes Involving FY 1998 Activities Authorized Under NWPs Modified by the Replacement Package (NWPs 3,7,12,14,27,40)

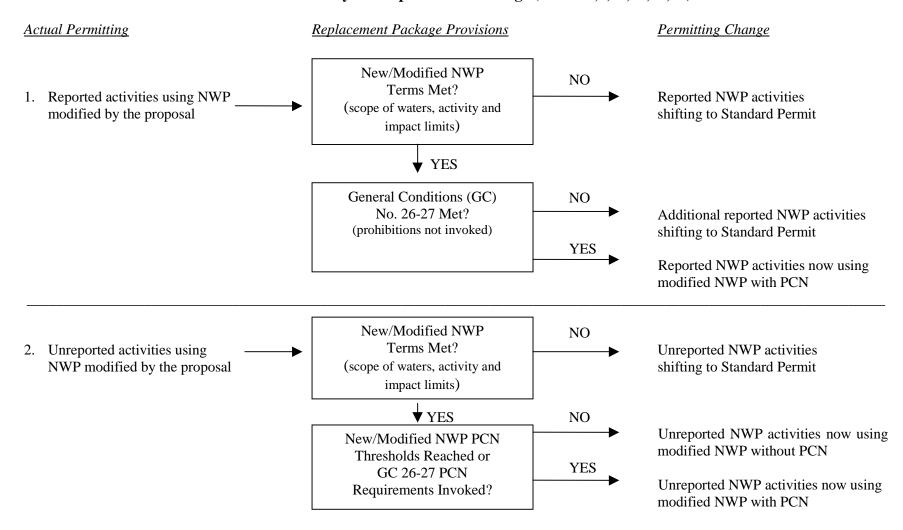
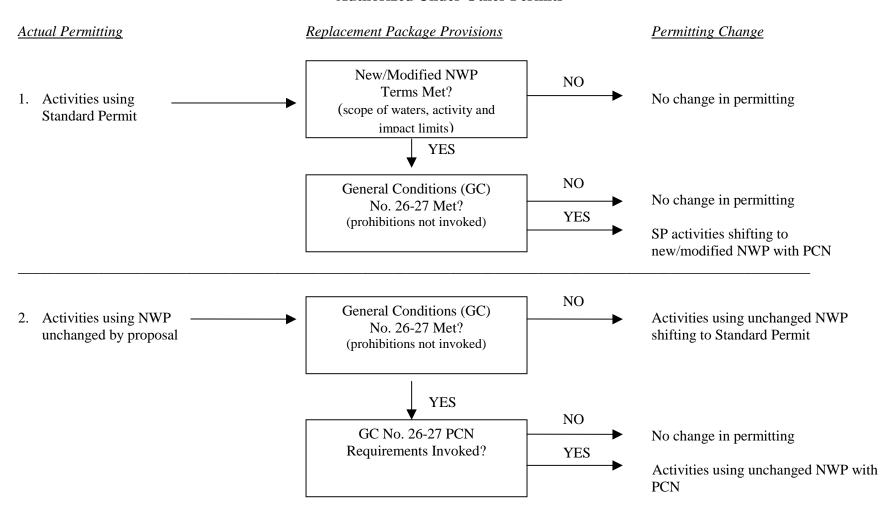


Figure 2.1c
Permitting Changes Involving FY 1998 Activities
Authorized Under Other Permits



Some NWP 26 activities could only qualify for NWP authorization under the new NWP 39 (Residential, Commercial, and Institutional Developments). While most of the proposed replacement permits establish fixed impact limits expressed in acres, the new NWP 39 introduces an indexing scheme, based on project size (in acres), to determine whether an activity would qualify for that NWP. However, data on project sizes for authorized activities are not recorded in the RAMS database. In order to determine the number of FY 98 NWP 26 activities that would qualify for NWP 39, it was necessary to develop average project sizes for each activity type covered by the permit. This was accomplished using information gathered in interviews with permit consultants conducted for this study. The estimates developed were assumed to hold for all districts and were used to predict national permitting shifts for those activities. Table 2.1 presents the estimates used to represent average project size for each activity category that would qualify for NWP 39, and the resulting implied impact limits for each under that permit.

Table 2.1. Assumed Average Project Size of NWP 26 Activities and Implied Impact Limits under NWP 39

NWP 26 Activity Type	Average Project Size (Acres)	NWP 39 Impact Limit (Acres)*
Institutional	25	0.75
Retail Individual	5	0.35
Retail Multiple	20	0.65
Residential Multiple	10	0.45
Industrial	10	0.45
Single Unit Housing	0.5	0.26

^{*} The indexing formula for NWP 39 is: Acreage impact limit = 1/4 acre plus 2% of project size (in acres), up to a maximum of 3 acres.

After estimating which NWP 26 authorizations would shift to SP, which would shift to a new or modified replacement NWP, and how many of the latter would require a PCN due to replacement permit requirements, general condition 27 (GC 27) was imposed on the estimates. GC 27 prohibits permanent above ground fills within the 100-year floodplain under modified NWPs 12, 14 and 40, new NWPs 39, 42, 43 and 44, and unmodified NWPs 21 and 29. The prohibition is qualified for activities under NWP 12 and 14; these are allowed to proceed if they can successfully rebut a presumption of more than minimal adverse impacts.

To estimate the number of activities that would be affected by GC 27, it was assumed that 52.8% of all non-tidal waters of the US, and therefore 52.8% of FY 98 permit authorizations, are within the 100-year floodplain. It was further assumed that 20% of these waters, and therefore 20% of authorizations covered by NWP 26, are within the 100-year floodplain in areas that drain less than one square mile. This last assumption was used to account for the GC 27 exemption for activities in floodplain areas that drain less than one square mile. S

Condition 27 across different regions and watersheds. Appendix E uses GIS mapping to illustrate the extent to which GC 27 would affect permitting in one specific watershed.

⁴ Approximately 51.7 million acres of the nearly 98 million acres of inland wetlands within the lower 48 states are forested wetlands (source: Dahl and Johnson, 1991). A one-to-one correspondence between forested wetlands and wetlands within the 100-year floodplain was assumed, leading to an estimated 52.8% of non-tidal wetlands within the 100-year floodplain. This national estimate of course masks the wide variation in the likely effects of General

⁵ NWP 26 authorizes activities in headwaters and isolated waters. Headwaters are located upstream of the point on the stream at which the average annual flow is less than 5 cubic feet per second. In the eastern US, one square mile of drainage area results in approximately 1 cubic foot per second of water flow through the stream channel on an

Imposing GC 27 on the estimates thus shifts to the SP process approximately 42% (52.8% * 0.8) of the activities found to otherwise qualify for a replacement permit. The 42% of NWP 26 activities qualifying for modified NWP 12 and 14 were assumed to successfully rebut the presumption of more than minimal impacts by submitting a PCN, thereby avoiding the need to secure SP authorization.

Those activities still qualifying for a NWP after the GC 27 screen were then screened through general condition 26 (GC 26). GC 26 prohibits discharges resulting in the loss of greater than one acre of non-tidal waters of the US (and adjacent wetlands) that have been identified through the Clean Water Act Section 303(d) process as impaired due to a variety of different causes. Activities involving the loss of less than one acre of impaired waters are also prohibited unless the applicant can demonstrate within the required PCN that the activity will not result in further impairment of the affected waters.

The US Environmental Protection Agency (USEPA) indicates that impaired waters identified through Section 303(d) of the Clean Water Act (CWA) correspond to waters assessed by states and found to be impaired through the CWA Section 305(b) water quality inventory process. Based on this correspondence, data reported in the USEPA 1996 National Water Quality Inventory report to Congress were used to estimate the extent to which NWP 26 activities would be affected by GC 26.⁶ From that data it was estimated that approximately 15% of all 404 waters are impaired due to the factors specified in GC 26. It was therefore assumed that a corresponding share of NWP 26 activities would be subject to GC 26.⁷ This estimate was used as the final screen to determine the number of additional activities that would require a SP.

2.1.2 Unreported NWP 26 Activities

Referring back to Figure 2.1a, activities authorized under NWP 26 can be grouped into two categories-those that reported to the Corps through a PCN (reported) and those that did not (unreported). Reported activities incur direct compliance costs (to develop and submit a PCN), while unreported activities do not.

The modeling of permitting changes outlined above relied on FY 98 RAMS data on reported NWP 26 activities only, since data on unreported activities are not collected. For reasons that will become clear below, it is important to recognize that majority of these reported activities involved impacts less than the 1/3-acre PCN threshold for NWP 26. In other words, most of FY 98 reported NWP 26 activities submitted a PCN (and thus incurred regulatory costs) even though they were not technically required to do so under the permit. One plausible explanation for this seemingly counter-intuitive result is uncertainty created by regulatory ambiguity.

Many elements of the 404 program are not regulatory "bright lines" that make it straightforward to determine exactly what is and what is not required or authorized. For example, determining whether affected waters are in headwaters, whether a project will impact more than 1/3 acre of waters of the US, or even whether affected waters are jurisdictional under the program can all be clouded by uncertainty. The regulated community likely includes risk-averse members who are willing to buy insurance against

annual basis. For purposes of this study, headwater streams are assumed to have a drainage area of 5 square miles. Since GC 27 does not apply to activities in watersheds that drain less than 1 square mile, it is assumed that one-fifth (20%) of NWP 26 activities occurred in the upper 1 square mile of the drainage area for headwater streams.

⁶ USEPA "Total Maximum Daily Load (TMDL) Program Frequently Asked Questions and Answers," posted on the USEPA internet site states, "The number of impaired river and shoreline miles as well as the number of impaired acres of lakes and estuaries [assessed and found to be impaired pursuant to 305(b) requirements] are essentially the

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same for the section 303(d) list..."

⁷ This estimate is likely conservative since it does not account for wetlands adjacent to impaired waters, which are also subject to the prohibition imposed by GC 26. Appendix B provides details on the derivation of this estimate.

this uncertainty (i.e., a verification letter from the Corps). The price of that insurance is the cost of submitting a PCN. These "over-compliance" costs, assuming they would not be incurred if the regulatory program did not exist, are appropriately viewed as costs of the current 404 program.

It must also be recognized that, while many FY 98 NWP 26 activities reported though not technically required to do so, a potentially significant but unknown number of other FY 98 NWP 26 activities also involved impacts less than the PCN threshold but did *not* report to the Corps. The number and characteristics of these unreported activities is not known since this information is not recorded in the RAMS database. This poses a problem for the cost analysis since the replacement package applies to all activities previously authorized under NWP 26. As with reported activities, the proposed changes would force some previously unreported NWP 26 activities to instead obtain SP authorization or to submit a PCN.

In the absence of data on unreported NWP 26 activities, the analysis assumed that the number of activities that submitted a PCN in FY 98 even though not technically required to do so, accurately reflects the number of activities that would be in the same situation under the replacement package. This assumption implies that the number of previously unreported NWP 26 activities that would now report to the Corps roughly equals that share of NWP 26 activities that reported to the Corps in FY 98 though not technically required to, but now would be required to submit a PCN under the replacement package. ⁹

This assumption provides a proxy estimate for the number of activities that went unreported in FY 98 that would now report to the Corps and incur regulatory costs as a result of the replacement package. This estimate was used to calculate permitting changes for unreported NWP 26 activities that would result from the replacement package. It relied on the same iterative methodology applied for the analysis of reported activities. The one difference is that the GC 26 screen was not needed in this case since it was assumed that these activities would successfully rebut the presumption of more than minimal impacts and be granted NWP authorization.

2.1.3 Other NWP Activities

The permitting change analysis also estimated the extent to which activities authorized in FY 98 under each modified NWP (NWPs 3,7,12,14,27,40) and a category of other existing NWPs would be affected by the replacement package. Permit changes for activities under each permit were analyzed in the same fashion as NWP 26 activities. That is, first changes to acreage and linear feet thresholds were considered, and then general conditions 26 and 27 were imposed on those authorizations that would still qualify for a NWP.

It was not possible to apply the methodology used to estimate unreported NWP 26 activities to these other nationwide permits. Unreported activities are not relevant in the case of NWP 7, 21, and 29, since all

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⁸ Or risk-avoiding financial institutions may force insurance costs on to project sponsors by requiring them, as a condition for obtaining project financing, to provide proof of project compliance with 404 requirements.

⁹ Some share of activities that reported to the Corps in FY 98 even though they were not technically required to would be compelled to submit a PCN under the replacement package. At the same time, the lower PCN threshold and other new requirements of the replacement package would induce a new set of previously unreported activities to submit a PCN even though they involve impacts below the new PCN threshold. If the number of activities in each group were roughly equal, then the total number of activities reporting though not required to do so would remain unchanged under the replacement package.

¹⁰ The other existing NWP category did not include NWP 15, 23, 24, 31, 32, 37, or 38. These permits would only be subject to general condition 26 – the impaired waters condition. As these permits pertain either to activities for maintaining, enhancing, or rehabilitating waters, or are approved by other agencies, it was assumed they would not be forced to apply for a standard permit even if they impacted greater than 1 acre of waters of the US.

activities authorized by these permits are required to report under the current program; similarly, NWP 3 does not require any activities to report. For NWP 12, 14 and 40, there were insufficient data to determine which of the FY 98 reported activities were not required to report but did so anyway. Therefore, estimates of the unreported activities for these NWPs were not derived.

2.2. ESTIMATED PERMITTING EFFECTS

2.2.1 NWP 26 Activities

Table 2.2 presents the results of the permitting change analysis for NWP 26 activities. Of the 6,310 reported NWP 26 authorizations in FY 98, about 44% (2,799) would be expected to qualify for one of the new and modified NWPs, and the rest (3,487) would be expected to require a SP. The replacement package would also cause an estimated 1,629 previously unreported NWP 26 activities to enter the permitting process, with approximately 43% (704) of these required to submit a PCN, and 57% (925) forced into the SP process.

The estimates for NWP 26 activities suggest that the replacement package provisions analyzed will result in 2,807 fewer PCN submissions and 4,412 additional SP applications annually. Approximately 35% of the estimated shift to standard permits are due to general conditions 26 and 27.

2.2.2 Other NWP Activities

A total of 20,579 reported activities were authorized in FY 98 under the other NWPs in the thirty-five districts that provided data. The permitting change analysis found that nearly all (98.8%) of these authorizations would qualify for a NWP under the replacement package. An estimated 244 of other NWP activities would now require SP authorization; all but three of these were authorized under NWP 14, 21 and 29 in FY 98.¹¹

¹¹ See Appendix B for details.

Table 2.2. Estimated Permitting Changes for FY 1998 Activities Authorized under NWP 26

Activity Category,	Chan	ges for Repoi	rted (PCN) A	ctivities	Changes for Unreported (Non-PCN) Activities			
Applicable New/Modified NWP#	# FY 98 PCNs ¹	# Shifting to Non- PCN	# Shifting to PCN	# Shifting to SP	# FY 98 Non-PCN ²	# Shifting to PCN	# Shifting to SP	
Institutional, 39	197	0	87	110	31	18	13	
Agricultural, 40	508	24	189	295	70	40	30	
Silvicultural, None	12	0	0	12	12	0	12	
Mining Aggregates, 44	38	0	17	21	29	17	12	
Mining Other, 44	73	0	31	42	57	33	24	
Retail Individual, 39	213	0	82	131	42	24	18	
Retail Multiple, 39	246	0	98	148	42	24	18	
Residential Multiple, 39	1,080	0	425	655	171	99	72	
Industrial, 39	324	0	122	202	55	32	23	
Transportation, 14	1,009	0	798	211	213	213	0	
Storm Water, 43	359	0	159	200	23	13	10	
Impoundment, None	281	0	0	281	281	0	281	
Treatment, None	72	0	0	72	72	0	72	
Other, Various	1,898	0	789	1,109	531	190	341	
Total	6,310	24	2,799	3,487	1,629	704	925	

^{1:} Not all columns add up due to rounding.

^{2:} This does not reflect total NWP 26 activities that did not report in FY 98. Rather, it represents those FY 98 unreported activities that would now report and incur regulatory costs under the replacement package. See text for explanation.

3. ESTIMATION OF COSTS

3.1 COMPLIANCE COSTS

3.1.1 Direct Costs

Direct compliance costs reflect the out-of-pocket expenses necessary to complete permit applications and comply with permit conditions, including required compensatory mitigation. The analysis of incremental direct costs corresponding to permitting changes focused on estimating the differences in unit compliance costs among affected permits. This required characterizing costs for activities authorized under different permit types. This was accomplished using data and information gathered in informal interviews with wetland permitting consultants and Corps district regulatory staff based around the country.

Table 3.1 identifies the major requirements and associated direct costs for different permit types, by impact size category, developed based on what was learned from the interviews conducted for this study. Specifically, it outlines permit requirements and costs for a NWP 26 PCN and a SP application for a "typical" project affecting less than one acre, and affecting more than one acre, of waters of the US. The last row of the table presents estimated total direct costs for each permit type and impact size category. ¹² These permit-specific costs were used to estimate changes in unit costs corresponding to each type of estimated permitting change.

Table 3.2 presents the estimates of direct compliance costs for the five permitting changes estimated for this analysis. Two considerations affect some of these estimates. The first relates to miscellaneous new procedural requirements imposed by certain replacement permits and general conditions. These new procedures would likely increase costs for a typical NWP PCN. However, assessment of the total compliance costs they would impose is complicated by the difficulty in identifying affected activities. Further, in aggregate these added costs would likely be much less that the costs associated with activities moving to SP, or now requiring PCN for the first time. For these reasons, these "process" costs were not estimated for this analysis. The study instead proceeded under the assumption that unit direct costs for new and modified NWPs equal the estimated costs for a typical NWP 26 PCN, as reported in Table 3.1. This assumption affects several of the incremental unit cost estimates presented in Table 3.2.

The second consideration relates to the costs of implementing compensatory mitigation required by permit conditions. The cost analysis proceeded under the assumption that the replacement package would not impose mitigation requirements and costs beyond those that are already being imposed by the current program. This assumption seems reasonable in the case of previously reported NWP activities, for which the Corps has been emphasizing mitigation since 1996. However, some of the permitting effects estimated in this analysis involve previously unreported NWP 26 activities being moved into the permit application process (PCN or SP). For these activities, mitigation costs would now be incurred under the replacement

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¹² An initial set of estimates for current 404 permit costs was shared with several trade associations representing various segments of the regulated community. In general, they viewed the estimates as too low, particularly those for standard permits. The permit cost ranges were revised upward somewhat to account for the information provided in their comments.

¹³ For example, General Condition 26 presumes that discharges affecting waters designated as impaired would result in more than minimal impacts, and for this reason prohibits discharges in impaired waters. However, an exception is provided for any discharge affecting less than one acre of impaired waters provided that the permit applicant can show that the discharge would not result in further impairment of the affected waters. The cost of developing this rebuttal would increase total direct compliance costs for affected activities.

Table 3.1 Estimated Current 404 Direct Compliance Costs (Excluding costs to implement compensatory mitigation)

Application	NWP 26 PCN:	NWP 26 PCN:	SP Application:	SP Application:
Component	Minor Impacts	Moderate Impacts	Minor Impacts	Moderate Impacts
Component	(<1 acre)	(1 - 3 acres)	(<1 acre)	(1 –3 acres)
Delineation and survey of special aquatic sites	\$2,000-3,000 for a 10-20 acre project site. Cost depends on project area as well as the total length of impact areas. Engineering survey of impact areas (if required) would impose added costs	\$2,000-3,000 for a 10- 20 acre project site. Cost depends on project area and the total length of impact areas. Engineering survey of impact areas (if required) would impose added costs	\$2,000-3,000 for a 10-20 acre project site. Cost depends on project site area and length of impact areas. Engineering survey of impact areas (if required) would impose added costs	\$2,000-3,000 for a 10-20 acre project site. Cost depends on project site area and length of impact areas. Engineering survey of impact areas (if required) would impose added costs
Project/Impact Drawings	General plans only, not detailed plan view and cross section drawings	\$2,000-3,000 for detailed plan views and cross sections (Cost depends on number of separate impact areas)	\$2,000-3,000 for detailed plan views and cross sections (Cost depends on number of separate impact areas)	\$2,000-3,000 for detailed plan views and cross sections (Cost depends on number of separate impact areas)
Alternatives Analysis	Brief statement of on- site avoidance and impact minimization	Discussion of on-site alternatives, e.g. site layout designs and engineering opportunities to avoid and minimize impacts	\$500-3,000 depending on whether a cursory off-site alternatives analysis is sufficient (low end of cost range) or not	\$3,000 and up for on- and off-site alternatives analysis. Cost can go much higher (\$50,000 or more) in the case of relatively large or controversial projects
Mitigation Proposal	Mitigation is often provided with measures that do not require mitigation design plans (e.g. onsite preservation, inlieu fee and bank options).	\$3,000-4,000 for conceptual on-site mitigation plan if requirement can not otherwise be met with measures that do not require design plans	\$3,000-4,000 for conceptual on-site mitigation plan if other mitigation options (e.g. in lieu fee or banking) are not available or allowable	\$3,000-4,000 for conceptual on-site mitigation plan if other mitigation options (e.g. in lieu fee or banking) are not available or allowable
Application Submission	\$1,000-2,000 to complete abbreviated application that includes all notification requirements	\$2,000-4,000 to complete application that includes all notification requirements	\$2,000-4,000 to complete application that includes all requirements	\$2,000-6,000 to complete application that includes all requirements
Total Permit Cost for a Typical Project 1: These cost rar	\$3,000 - 6,000	\$6,000 – 10,000	\$10,000 – 16,000	\$12,000 – 24,000

^{1:} These cost ranges are not necessarily simply additive component costs.

Table 3.2 Estimated Incremental Direct Compliance Costs Corresponding to Permitting Changes

Permitting Change	Unit Change in	Basis for Unit Change in
	Compliance Cost	Direct Compliance Cost
Reported NWP (PCN)	Not estimated	The new and modified NWPs and NWP General
activity shifting to	(assume no	Conditions would impose miscellaneous new
new/modified NWP PCN	change)	procedural requirement that likely would increase
		average PCN costs somewhat. These added costs were
		not estimated; instead, the cost analysis assumes that
		PCN costs for new and modified NWPs mirror those
		for a NWP 26 PCN as reported in Table 3.1.
Reported NWP (PCN)	+ \$8,800	Difference between: a) \$5,200—weighted average
activity shifting to SP		cost for a NWP 26 PCN and; b) \$14,000—weighted
		average cost for a SP. Weighted average costs are
		calculated by multiplying average permit costs for
		each impact size category (mid-point of estimated cost
		range) as reported in Table 3.1, by weights
		representing the shares of NWP 26 activities
		authorized in FY 98 impacting less than one acre of
		waters of the US (80%), and one acre or more (20%).
Reported NWP (PCN)	- \$5,200	Weighted average cost for a NWP 26 PCN (see
activity shifting to NWP		explanation above)
Non-PCN (limited to new		
NWP 40)		
Unreported NWP (Non-	+ \$5,200	Weighted average cost for a NWP 26 PCN (see
PCN) activity shifting to		explanation above)
new/modified NWP PCN		
Unreported NWP 26 (Non-	+ \$13,000	Mid-point of the estimated cost range for a SP
PCN) activity shifting to SP		involving minor impacts, as reported in Table 3.1

package where they were not previously. The analysis of costs for previously unreported NWP 26 activities therefore does not account fully for all relevant direct compliance costs that would be imposed by the replacement package.

3.1.2 Indirect Costs

The indirect costs of compliance with the 404 program largely represent "opportunity costs" that are not necessarily reflected in out-of-pocket expenses. Opportunity costs include permitting time costs and any development values foregone as a result of the Corps application of the 404(b)(1) "sequencing" rules. The sequencing rules, which say that permit applicants must take all practicable steps to avoid, minimize and mitigate impacts, are often used to require permit applicants to re-design projects and reserve portions of project sites for the provision of compensatory mitigation. Such mandated project alterations can reduce potential development value.

The replacement package likely would increase the indirect costs of permitting, and these added costs could potentially be more significant than the incremental direct costs. While the importance of incremental indirect costs is recognized, estimation of these costs is complicated by, among other things, the extreme variability in the types and characteristics of potentially affected activities and the economic settings in which they occur. The data and level of analysis needed to assess these costs to the extent possible are beyond the time and resources available for this study.

As a second best approach, the analysis presented below developed two partial measures of indirect costs that might be imposed on the regulated community by the proposed changes. First, a permitting time analysis was used to predict the extent to which permit application processing times and backlogs might be increased as a result of the replacement package. Second, an illustrative estimate of foregone development value resulting from the new vegetative buffer requirement was developed for the residential development sector.

3.1.2.1 Increased Permitting Time

Permitting time can be defined as the total amount of time it takes for project sponsors to apply for and obtain Corps permit decisions. Permitting time for any applicant can be categorized into three parts:

- 1. The time it takes the applicant to prepare the application and submit it to the Corps,
- 2. The time it takes the applicant to respond to any Corps requests for additional project information needed to complete the application, and;
- 3. The time it takes the Corps to evaluate and reach a final decision on the completed application.

The replacement package would likely increase each component of permitting time for those activities that are directly affected by the proposed changes (e.g., activities previously authorized under NWP 26). Perhaps more importantly, the replacement package would also likely produce systemic effects on 404 permitting with respect to the third component of permitting time identified above. That is, the increased permitting workload resulting from the replacement package would be expected to increase the average time it takes the Corps to process any permit application, including those that would not otherwise be affected by the proposed changes. The analysis of increased permitting time resulting from the

¹⁴ This is particularly true for NWP activities that under the replacement package would need to obtain standard permit authorization. For example, in FY 98 it took the Corps an average of 89 days to process a standard permit application, but only 18 days to process a NWP application. Factors contributing to the longer processing time for standard permits include the need to perform an off-site alternatives analysis, issue a public notice and consider public comments, and coordinate with federal and state resource agencies.

replacement package focused on estimating such systemic effects on the Corps processing of SP applications. ¹⁵

The permitting time analysis proceeded under several operational assumptions. First, it was assumed that Corps district regulatory branches are currently operating at full capacity. In other words, at current funding levels the Corps districts could not process significantly more permits than they currently do without compromising permitting oversight. Second, it was assumed that Corps district regulatory budgets would remain roughly at current levels. Third, it was assumed that Corps districts would not cut corners in permitting oversight in an effort to absorb the increased workload within current budget limits.

Together, these assumptions imply that the number of SP applications processed (i.e., issued or denied) nationally over each of the next several years would remain roughly at current levels. This in turn suggests that the main effect of the replacement package on the Corps processing of SP applications would be to: 1) increase the average amount of time it takes the Corps to process a permit application, and 2) increase the number of backlog applications awaiting Corps processing.

These two indicators of permitting time were predicted for each of the five years in which the replacement package would be in effect. Processing time is represented by a measure of "average evaluation days" per processed application that the Corps routinely calculates each year for major permit types based on the total permitting workload during that year. Permit application backlog is represented by the estimated number of pending applications at the end of each year that would be carried forward into the permitting queue for the next year.

To predict average processing time under the replacement package, the following relationship between processing time and the number of permit applications was postulated:

(1) Average Evaluation Days = f (Carryover, Received, Withdrawn, Processed)

Where: Average Evaluation Days = Average number of days it takes the Corps to process a permit application in the current year

Carryover = Number of permit applications unprocessed (pending) at the end of the previous year and carried forward into the current year

Received = Number of permit applications received in the current year

Withdrawn = Number of permit applications withdrawn in the current year

Processed = Number of permit applications issued or denied in the current year.

Equation (1) says that the average processing time for a permit application in some year (dependent variable) is determined by the number of permit applications moving through the system in that year (independent variables). The careful reader will note that the other permit application variable of interest

¹⁵ The permitting time analysis used FY 98 data on activities authorized under standard permits and "letters of permission" combined, since some of the relevant data elements are only available at this level of aggregation. A letter of permission is an abbreviated standard permit that is sometimes available for non-controversial projects involving minor impacts.

¹⁶ Appendix D provides Corps district viewpoints supporting this assumption.

here—the number pending at the end of the current year, can be derived by combining the independent variables in equation (1). To Given this identity, equation (1) can be reduced to:

(2) Average Evaluation Days = f (Pending)

Where: Average Evaluation Days = Average number of days it takes the Corps to process a permit application in the current year

Pending = Number of applications pending at the end of the current year that are carried forward into the next year.

The relationship specified by equation (2) was used together with FY 98 values for the dependent and independent variables to calculate a parameter that identifies the relationship between these variables in FY 98. This parameter was then used to predict average evaluation days (AED) in each of the five years following implementation of the replacement package. ¹⁹

Since the prediction of AED in any year using equation (2) depends on the number of pending applications at the end of that year, this latter variable had to be estimated first. This was accomplished by combining the actual or estimated values for the permit application variables given in the right-hand side of equation (1).

For example, calculation of the number of pending applications at the end of year 1 under the replacement package proceeded as follows. First, the number of pending applications at the end of FY 98 was obtained from the RAMS database. This provided an estimate of the number of applications carried forward into year 1. The number of received applications in year 1 was then calculated as the number of received applications in FY 98 (from RAMS) plus the additional applications estimated to result from the replacement package (from the permitting change analysis). This estimate of received applications was then summed with carryover applications to calculate the total number of applications in the permitting queue in year 1. It was then necessary to subtract from this total the estimated number of applications that would be processed and withdrawn, respectively, during the year. Since it was assumed that the number of applications processed annually under the replacement package would remain at current levels, the number of processed applications in FY 98 (from RAMS) was used to represent the number processed in year 1. Two alternative assumptions, explained below, were used to estimate the number of withdrawn applications during the year.

This procedure provided an estimate for the number of pending applications at the end of year 1 that also represents carryover applications in year 2. The procedure was repeated for each of years 2-5 to calculate the number of pending applications at the end of each of those years. These estimates were then multiplied by the parameter derived from equation (2) to predict AED for years 1-5.

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¹⁷ Applications pending at the end of the current year = (applications carried over from the previous year) + (applications received in the current year) – (applications withdrawn in the current year) – (applications processed in the current year).

¹⁸ Equation (2) is specified as: Y = BX, where Y is average evaluation days in FY 98, X is the number of pending applications at end of FY 98, and B is an unknown parameter. Plugging in actual FY 98 values for X and Y and solving for B yields a factor defining the relationship between X and Y in FY 98.

¹⁹ Equation (2) was also estimated with ordinary least squares using FY 92-98 data for the dependent and

¹⁹ Equation (2) was also estimated with ordinary least squares using FY 92-98 data for the dependent and independent variables. This equation was also used to predict average evaluation days over the five-year period. The resulting estimates closely match those obtained using the factor calculated by solving for the unknown parameter in the algebraic identity between AED and the number of end-of-year pending applications in FY 98 (see previous footnote).

The results of the permitting time analysis are presented in Tables 3.3a and 3.3b. The tables provide alternative sets of predictions for AED and end-of-year pending applications for years 1-5 under the replacement package. The two sets of predictions differ due to their reliance on different scenarios for estimating the number of withdrawn applications in each year, as explained below.

The Scenario 1 predictions in Table 3.3a were calculated using estimates for the number of withdrawn applications in each year based on the ratio of the number of withdrawn applications in FY 98 to the number of received applications in FY 98. This ratio, when multiplied by the estimated number of received applications in any year 1-5, provides an estimate of the number of withdrawn applications in that year. Since the estimated number of received applications is constant across years 1-5, the estimated number of withdrawn applications is also constant across these years.

The Scenario 2 predictions in Table 3.3b were alternatively calculated using estimates for the number of withdrawn applications in years 1-5 based on the ratio of withdrawn applications in FY 98 to the sum of carryover applications and received applications in FY 98. In this scenario, the estimated number of withdrawn applications steadily increases over years 1-5 since the estimates for carryover applications increase over these years. In essence, this scenario assumes that increasing numbers of permit applicants would withdraw from the permitting process each year as permit processing times and backlogs rise.

The Scenario 1 predictions indicate that permit application processing times and backlogs would be more than double FY 98 levels by the second year following implementation of the replacement package. In year 5, processing times and backlogs are predicted to be more than four times the levels experienced in FY 98.

The Scenario 2 predictions are roughly the same as those of Scenario 1 for the second year under the replacement package. In year 5, however, the Scenario 2 predictions of processing times and backlogs are about three times the levels experienced in FY 98, or about 25% less the Scenario 1 predictions. This is because Scenario 2 assumes that increasing numbers of permit applicants would withdraw from the permitting process as processing delays increase over years 1-5.

Table 3.3a. Predicted Processing Time and Backlog for Standard Permit Applications: Scenario 1*

Standard Permit Applications	FY 98	Year 1	Year 2	Year 3	Year 4	Year 5
	(Actual)					
Carryover – unprocessed applications						
from previous year	3,866	3,992	6,644	8,297	11,949	14,601
Received – applications received in						
current year	9,036	13,692	13,692	13,692	13,692	13,692
Withdrawn – applications withdrawn in						
current year	3,841	5,820	5,820	5,820	5,820	5,820
Processed – applications issued or denied						
in current year	5,089	5,089	5,089	5,089	5,089	5,089
Pending – applications carried forward						
into next year	3,992	6,775	9,558	12,341	15,123	17,906
Average Evaluation Days Per Processed				•		
Application	89	151	213	275	337	400

^{*} Scenario 1 relies on estimates for the number of withdrawn applications in years 1-5 based on the ratio of withdrawn application in FY 98 to received applications in FY 98. See text for explanation.

Table 3.3b. Predicted Processing Time and Backlog for Standard Permit Applications: Scenario 2*

Standard Permit Applications	FY 98 (Actual)	Year 1	Year 2	Year 3	Year 4	Year 5
Carryover – unprocessed applications	(Trettur)					
from the previous year	3,866	3,992	7,171	9,404	10,971	12,073
Received – applications received in						
current year	9,036	13,692	13,692	13,692	13,692	13,692
Withdrawn – applications withdrawn in						
current year	3,841	5,265	6,258	6,956	7,447	7,791
Processed – applications issued or denied						
in current year	5,089	5,089	5,089	5,089	5,089	5,089
Pending – applications carried forward						
into next year	3,992	7,330	9,675	11,321	12,478	13,290
Average Evaluation Days Per Processed						
Application	89	164	216	253	278	297

^{*} Scenario 2 relies on estimates for the number of withdrawn applications in years 1-5 based on the ratio of withdrawn applications in FY 98 to the sum of carryover applications and received applications in FY 98. See text for explanation.

Opportunity costs associated with the predicted increases in permit processing time could not be assessed in dollar terms for this study, due largely to the wide array of factors that can affect time costs within and across different categories of affected activities. (Box 1 provides an overview of factors affecting the ways in which increased permitting time can impose opportunity costs on land development activities). While the opportunity costs of permitting delay could not be monetized, they could potentially be the most significant element of compliance costs resulting from the replacement package. The level of increased permitting time and associated costs resulting from the replacement package will depend largely on the amount of resources available to the Corps for processing permits. The estimates of increased permitting time generated above are based on the assumption that Corps districts' annual permitting budgets would remain roughly at FY 98 levels.

3.1.2.2 Foregone Development Value

Activities now authorized under NWP 26 and other NWPs are already required to avoid, minimize, and mitigate adverse impacts at project sites. The opportunity costs of such mandated project modifications thus might not be expected to increase substantially as a result of the replacement package. ²⁰ However, the proposed changes include a new emphasis on requiring vegetated buffer zones adjacent to open waters located at project sites as a means to prevent more than minimal degradation of aquatic habitat and water quality. This new emphasis could increase the loss of development value associated with affected activities.

The buffer provision is part of modified General Condition 9 (Water Quality) that applies to 11 of the new and modified NWPs. The condition specifies that: "To the maximum extent practicable, a vegetated buffer zone adjacent to open waters of the river, stream, or other open waterbody will be established and maintained, if the project occurs in the vicinity of such an open waterbody. The District Engineer will

²⁰ Most of the added indirect costs of sequencing likely would be associated with previously unreported NWP activities that would now report to the Corps and thus be newly subjected to sequencing requirements.

activities that would now report to the Corps and thus be newly subjected to sequencing requirements.

The vegetative buffer requirement is also included directly in the proposed new NWP 39 (Residential, Commercial, and Institutional Developments) as a criterion for activities authorized under this permit, and is also recommended by modified General Condition 19 (Mitigation) as a form of "out-of-kind" compensatory mitigation for any NWP activity located near open waters.

Box 1: Opportunity Costs of Increased Permitting Time: Conceptual Overview

The opportunity costs to permit applicants of an increase in the time it takes the Corps to process 404 permit applications can be manifested in a variety of ways. For land development activities (e.g., residential subdivisions, shopping centers), the ways in which the opportunity costs of project delay are incurred depend largely on whether the permit applicant owns the land on which the activity would be located. A brief look at factors that affect the ways in which increased permit processing time could impose opportunity costs on this segment of the regulated community follows below.

Case 1: Permit Applicant Does Not Own the Project Site

At the time at which they enter the permitting process, some applicants for 404 permits do not own the lands on which proposed activities would be located. For example, a project sponsor can obtain an "option" to purchase a prospective project site that extends through the time period required for 404 permitting. A real estate option provides the holder with the right (but not the obligation) to purchase a land parcel at a specified price on or before a specified date. The option is sold by the landowner to the potential land buyer at a price agreed upon by both parties.

For a project sponsor who uses a real estate option (or similar contractual arrangement) to secure a prospective project site during the 404 permitting process, an increase in permitting time would force the sponsor to obtain an option of a longer duration, at a higher price. In other words, the project sponsor would be forced to pay a premium for the needed option as a result of increased permitting time. Assuming that the project sponsor receives the 404 permit within the option period, buys the land, and the option amount is applied to the land purchase price, then the opportunity costs of the increased permitting time are reflected in benefits foregone by not employing the option premium in its most economic alternative use. For example, the project sponsor could have alternatively invested the dollar amount of the option premium in US Treasury securities and earned interest payments during the length of the option period. These foregone interest earnings reflect the opportunity costs of increased permitting time in the case outlined above.

Case 2: Permit Applicant Owns the Project Site

Other project sponsors own the sites for proposed activities at the time at which they enter the 404 permitting process. Assuming that a project sponsor in this situation would eventually be issued 404 permit authorization, then the opportunity costs of increased permitting time are reflected in the amount of project net returns (profits) foregone by not being able to proceed with the project sooner rather than later.

Other Factors Driving Project Delays

The above explanation of the opportunity costs of permitting time assumes that the amount of time it takes the Corps to process 404 permit applications is the limiting factor driving project delays. This may not always be the case, however. For example, local government entities often require the sponsors of land development projects to submit site plans for approval, and this process can take a significant amount of time to complete. If a project sponsor concurrently pursues 404 permitting and local government approval of site plans, then an increase in the amount of time it takes the Corps to process the project sponsor's permit application would increase opportunity costs to the project sponsor only to the extent that 404 permitting time extends beyond that required for site plan approval.

determine the proper width of the buffer and in which cases it will be required. Normally, the vegetated buffer will be 50 to 125 feet wide" (64 Federal Register 39365; July 21, 1999).

The buffer provision could result in the loss of potential development value of affected projects by reducing the total land area available for development use. Depending on the number and configuration of waters (including intermittent streams) located on some project site, establishment of buffers to the fullest extent could diminish significantly the area of the site that is available for development.²²

Assessment of the opportunity costs that might result from the vegetative buffer provision requires several pieces of information that are not readily available or estimable. For each type of potentially affected project, the following information would be needed to approximate development value foregone as a result of the buffer requirement:

- 1. Share of permitted projects required to establish buffers,
- 2. Land area of affected projects set aside for buffers, and;
- 3. Development value of affected lands.

The share of permitted projects that would be affected by buffer requirements depends on the extent to which open waters are located on project sites, and the extent to which Corps districts would require buffers for these waters. The land area of affected projects that would be set aside for buffers is a function of the number and configuration of open waters at project sites, and the width of buffer zones for these waters required by Corps regulators.

The extent and level to which Corps regulators would require buffers for open waters found on project sites is of course unknowable. And adequate information is lacking on the total land area at project sites that could potentially be affected by buffer zones along rivers, streams, and other open waters.

Similarly, adequate information is largely unavailable on development values for potentially affected lands. Development values are reflected in the market prices of lots available for development use. However, property values for lands used by any specific type of affected development activity (e.g., shopping centers) can of course vary widely across the country. This limits the usefulness of estimates of average property values to proxy development values foregone for different activity types potentially affected by buffer requirements. At any rate, estimates of national average property values by development sector are not readily available.

The uncertainties and data limitations outlined above prevented a detailed and comprehensive assessment of the magnitude of development values potentially foregone as a result of the vegetative buffer provision. Instead, an illustrative estimate of foregone development value was calculated for residential development activities (see Box 2). Historically, these activities more than any other have relied on NWP 26 for permit authorization, and thus could be the most affected by buffer requirements. The analysis presented in Box 2 suggests that the proposed vegetative buffer provision could impose annual opportunity costs of roughly \$5 million on this one sector alone (which accounts for approximately 16% of FY 98 NWP 26 PCN activities.

Districts could limit potential economic loss in the application of buffer requirements, it also suggests that the level of regulatory uncertainty faced by the development community would rise. Case-by-case determination of required buffers would likely make it more difficult for project sponsors to evaluate potential development projects.

²² Perhaps in recognition of this potential for economic loss, General Condition 9 gives District Engineers full discretion on when and to what extent to require vegetative buffers. While this flexibility suggests that Corps

Box 2: Illustrative Estimate of Residential Development Value Foregone Due to Vegetative Buffer Requirements (General Condition 9)

Estimated Number of Affected Activities

The permitting change analysis estimated that each year a total of 524 of activities classified as "residential multiple" would seek and receive 404 authorization under the proposed new NWP 39. Assuming that the Corps would require vegetative buffers primarily for NWP activities that occur in floodplains, then about 94 of these activities (18%) would be subject to buffer requirements. These represent the estimated share of residential development activities located in floodplain areas that drain less than one square mile (that are exempted from General Condition 27), as calculated based on the assumptions used in the permitting change analysis.

Estimated Land Area Affected

Consistent with the permitting change analysis, the average land area for activities classified as residential multiple is assumed to be 10 acres. The assumed share of project areas that would be devoted to buffers is based on two independent estimates of potentially affected lands. The first was taken from a published source that asserts that, in most regions of the country, a 100-foot wide buffer along headwater streams would take about 5% of the total land area in any given watershed out of development use. The second estimate comes from comments on the proposed replacement package submitted to the Corps by a permitting consulting firm. That source asserts that a 50-foot wide buffer applied to intermittent streams would reduce by 10-20% the total land area for permitted projects. Using the average of these two estimates, it is assumed that 10% of the total land area of affected residential activities would be set aside for buffers.

Total affected land area is calculated by combining the estimates for the number of affected activities, average project area, and the share of project areas devoted to buffers. This calculation yields an estimated 94 acres of residential development lands that would be left undeveloped due to buffer requirements.

Estimated Development Value Foregone

A recent Congressional Budget Office report cites an estimate of average property value for improved 10,000-square-foot lots suitable for the construction of single-family homes. Using data from 30 cities collected by the Urban Land Institute, the average lot value was identified as \$48,000 in 1995. Assuming that the average lot is now worth \$50,000, and that one acre of land could accommodate three such lots, then the price per acre would be roughly \$150,000. This estimate reflects the value of improved land. To reflect that 404 project sites are largely unimproved lands, it is assumed that unimproved lands are worth about half as much as improved lands, so that the average price per acre for residential development land is \$75,000.

Applying this unit value to the estimated number of acres set aside for buffers yields an estimated foregone development value for the residential development sector of about \$7 million annually. Since buffers can be used to satisfy compensatory mitigation requirements, mitigation costs that would otherwise be incurred in the absence of required buffers must be netted from the estimated buffer cost. Assuming that each of the 94 affected activities would otherwise incur mitigation costs of \$20,000, then the total net costs of required buffers for residential activities is roughly \$5 million per year.

¹ Tom Schueler. 1995. "The architecture of stream buffers". *Watershed Protection Techniques*. Vol.1, No.4 (Summer).

² Congressional Budget Office. 1998. *Regulatory takings and proposals for change*. (December).

3.2 ADMINISTRATIVE COSTS

The Corps incurs administrative costs to process each PCN or SP application received. These costs vary by the type of permit sought as well as the complexity and scope of the proposed activity. All other factors equal, the replacement package would affect the Corps administrative costs by changing the total number and mix of permit applications received. To estimate the net effect of the replacement package on administrative costs (while holding constant the current level of 404 program efficiency and oversight) the following relationship between a Corps district's annual permitting budget and the number of each permit type processed in the district was postulated:

(3) Annual Permitting Budget = f (SP, NWP, LOP, RGP)

Where: Annual Permitting Budget = 76.4% of FY 98 Regulatory Branch Obligations²³

SP = Number of Standard Permits authorized in FY 98 NWP = Number of Nationwide Permits authorized in FY 98 LOP = Number of Letters of Permission authorized in FY 98 RGP = Number of Regional General Permits authorized in FY 98.

Equation (3) was estimated with ordinary least squares using FY 98 budget and permitting data from all 38 districts. ²⁴ The estimated coefficients for the independent variables can be interpreted as the average budgetary allotment spent per permit processed for each permit type. These estimates were used to proxy the average administrative cost of processing each type of permit. The average Corps costs to process a NWP PCN and a SP application were estimated to be \$503 and \$2,033, respectively.

The estimated equation also included a dummy variable indicating whether a district issued other permit types (SP, LOP, and RGP) more often than NWPs in FY 98. This variable posits that such districts face different levels of fixed costs for administering the permit program. The estimated coefficient for this variable indicates that districts that rely more heavily on permit types other than NWPs require about \$1 million more in annual permitting budget.

The estimated coefficients were used together with the results of the permitting change analysis to estimate the increase in the Corps annual permitting budget that would be needed to maintain current levels of permitting efficiency. For example, the number of activities predicted to shift from a nationwide permit (PCN) to a standard permit was multiplied by \$1,530, the difference in the estimated coefficients for the NWP and SP variables. This provides an estimate of variable administrative costs. To estimate fixed administrative costs, the district-level results of the permitting change analysis were used to identify how many more districts would process other permit types more often than NWPs under the replacement package. This result was then multiplied by the estimated coefficient for the dummy variable to estimate fixed administrative costs. Total Corps administrative costs were calculated by summing estimated variable and fixed costs.

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²³ Total regulatory branch budgetary obligations in FY 98 for all Corps districts were \$104.8 million, of which approximately \$80.1 million (76.4%) were for permitting. (Source: Frank Torbett, Corps Headquarters) ²⁴ The specification of equation (1) and the full set of regression results are presented in Appendix C.

4. SUMMARY OF FINDINGS

4.1 PERMITTING CHANGES

As shown in Table 4.1, the proposed replacement package is estimated to result in 4,656 additional standard permit (SP) applications and 3,051 net fewer nationwide permit (NWP) pre-construction notification (PCN) submissions annually. The new SP applications would increase by 50% the number of individual permit applications received by the Corps in FY 98.

Activities previously authorized under NWP 26 account for the vast majority (95%) of the estimated new SP applications. Approximately 65% of these permit shifts are due to the more restrictive terms (activity restrictions and impact limits) of the replacement permits. The remaining shifts are driven by the prohibitions on above-grade fills within the 100-year floodplain imposed by General Condition 27, and on discharges in impaired waters imposed by General Condition 26.

More than half of the 6,310 activities that reported to the Corps and were authorized under NWP 26 in FY 98 would require SP authorization under the replacement package. The rest would qualify for a replacement permit, and all but 24 of these would need to submit a PCN. Of the estimated 1,629 previously unreported NWP 26 activities that under the replacement package would now report to the Corps, about 57% would require SP authorization. The rest would now qualify for a replacement permit and be required to submit a PCN.

4.2 COMPLIANCE COSTS

4.2.1 Direct Costs

The estimated permitting changes would increase direct compliance costs by an estimated \$48 million annually, as shown in Table 4.1. Of this total, permitting shifts for reported NWP 26 activities account for about \$31 million and those for previously unreported NWP 26 activities account for roughly \$16 million. These direct costs represent the out-of-pocket costs that the regulated community would need to incur to obtain required permit authorizations under the replacement package.

4.2.2 Indirect Costs

The indirect costs of compliance with the 404 program represent opportunity costs that are not reflected in out-of-pocket expenses. Two partial measures of indirect costs resulting from the replacement package were estimated. First, an illustrative estimate of development value foregone due to the new vegetative buffer requirement (General Condition 9) was estimated for residential development activities. Using a set of informed assumptions, this provision is estimated to impose annual opportunity costs of roughly \$5 million on this one sector alone. While this estimate should be viewed as no more than illustrative, it nevertheless is suggestive of the potential level of opportunity costs imposed by the new buffer requirement.

Second, a permitting time analysis was used to predict systemic effects of the replacement package on the Corps processing of standard permit applications, assuming that Corps district permitting budgets would remain roughly at current levels. The results indicate that the average time it takes the Corps to process any standard permit application, and the level of end-of-year pending (backlog) applications awaiting Corps processing, would rise steadily each year under the replacement package. In the second year under the new rules, average SP processing times and application backlogs are predicted to reach twice their FY

98 levels. In year 5, processing times and backlogs would increase to 3-4 times the levels experienced in FY 98. While the opportunity costs of increased permitting time could not be assessed in dollar terms, these could potentially be the most significant element of compliance costs resulting from the replacement package. This will depend largely on the amount of resources available to the Corps for processing permit applications.

Table 4.1 Summary of Estimated Changes in Permitting and Direct Compliance and Administrative Costs

Estimated Permitting Changes Involving Activities Authorized Under NWPs in FY 98	Number of	Unit Direct Compliance	Unit Corps	Total Direct Compliance	Total Corps Costs (\$)
	Activities	Costs	Costs	Costs (\$)	(4)
FY 98 Reported (PCN) NWP 26 Activities	6,310				
Shifting to:					
New/Modified NWP PCN	2,799	0	0	0	0
Non-reporting NWP	24	-5,200	-503	-124,800	-12,072
Standard Permit	3,487	8,800	1,530	30,685,600	5,335,110
Total Costs, Reported NWP 26 Activities				30,560,800	5,323,038
FY 98 Unreported (Non-PCN) NWP 26	1,629				
Activities Shifting to:					
New/Modified NWP PCN	704	5,200	503	3,660,800	354,112
Standard Permit	925	13,000	2,033	12,025,000	1,880,525
Total Costs, Unreported NWP 26 Activities				15,685,800	2,234,637
FY 98 Reported Other NWP Activities Shifting	20,579				
to:					
New/Modified NWP PCN	20,335	0	0	0	0
Standard Permit	244	8,800	1,530	2,147,200	373,320
Total Costs, Reported Other NWP Activities				2,147,200	373,320
Î					
Total Annual Change in NWP PCNs	-3,051				
Total Annual Change in Standard Permits	4,656				
Total Annual Costs of All Permitting Changes				48,393,800	11,963,715*

^{*} In addition to the variable permitting costs included in the column, this estimate of total Corp administrative cost includes an estimated level of extra fixed costs needed by the Corps to implement the replacement package while maintaining current levels of permitting efficiency. It is based on an estimated additional fixed cost (\$1,008,930) needed by each district that processes less NWPs than other types of permits combined (see Section 3.2 and Appendix C). The permitting change analysis predicts that four additional districts would be in this situation under the replacement package, indicating that an extra \$4,032,720 in total Corps permitting budget would be needed.

4.3 ADMINISTRATIVE COSTS

The estimates of increased permitting times are based on the assumption that Corps district annual permitting budgets would remain roughly at current levels. The study also estimated the increase in regulatory program permitting budget that the Corps would need to implement the replacement package while maintaining current levels of permitting efficiency. An estimated additional \$12 million in Corps regulatory budget would be needed annually, or about 15% more than the Corps spent on permit processing in FY 98.

This estimate of added Corps permitting budget needed to maintain current levels of permitting efficiency should be viewed as only a first approximation. It is based on estimated unit processing costs for different types of permits, and fixed processing costs for different combinations of permit types processed, calculated by specifying and estimating a linear relationship between Corps district permitting budget and the number and mix of permits processed in FY 98. The results of this type of analysis are sensitive to how the relationship is specified and estimated. And it must be kept in mind that these estimates of permit processing costs are based on current permitting levels, and are thus best suited for illustrating the effects on costs of marginal changes in permitting workload. To the extent that the replacement package leads to a non-marginal increase in permitting workload (as this study shows), then unit and fixed costs for permit processing might also change significantly.

4.4 DISCUSSION

Several important considerations should be kept in mind when evaluating the study results outlined above. First, it should be recognized that while the permitting change estimates for reported NWP 26 activities are based on FY 98 data from the RAMS database, those for unreported activities are not. In the absence of data on unreported activities, the study relied on an informed assumption to estimate the number of previously unreported activities that would now report and incur regulatory costs under the replacement package. Since they are not based on hard data, however, the permitting change estimates developed for previously unreported NWP 26 activities, and thus their corresponding cost estimates, are necessarily speculative.²⁵

Second, for a number of reasons the estimates of incremental direct compliance costs for estimated permitting shifts should be viewed as conservative. One reason is that these estimates do not include costs associated with miscellaneous new procedural requirements imposed by the proposed replacement permits and general conditions. Another reason is that the estimates of costs for standard permits used to calculate incremental unit costs do not adequately reflect direct compliance costs for controversial projects. In those cases, costs for the required "off-site alternatives analysis" alone can easily be several times the unit cost estimate for standard permits used for this analysis.

A final reason for viewing the unit compliance cost estimates as conservative is the lack of accounting for mitigation costs in the case of previously unreported NWP 26 activities. The cost analysis proceeded under the assumption that the replacement package would not result in mitigation requirements and costs beyond those that are already being imposed by the current program. This assumption seems reasonable in the case of reported NWP activities, for which the Corps has been emphasizing mitigation since 1996. However, a significant share of the permitting effects estimated in this analysis relate to previously unreported NWP 26 activities being moved into the permit application process (PCN or SP). For these activities, mitigation costs would now be incurred where they were not previously.

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²⁵ If the permitting change estimates for previously unreported NWP 26 activities are excluded from the total cost estimates, the replacement package would impose an estimated \$33 million in direct compliance costs, and an estimated \$10 million in added annual Corps permitting budget would be needed to maintain current levels of permitting efficiency.

permitting efficiency.

²⁶ For example, General Condition 26, which prohibits discharges in impaired waters based on a regulatory presumption of more than minimal impacts, provides an exception for discharges affecting less than one acre of impaired waters; these are allowed to proceed under NWP authorization provided that the permit applicant can successfully rebut the presumption of more than minimal impacts. While the permitting change analysis assumed that a permit applicant in this situation would successfully rebut the presumption and be authorized under a nationwide permit, the cost to the applicant of developing the rebuttal were not calculated and reflected in the incremental unit cost estimates.

4.5 ADDENDUM

In the latter stages of the study, the investigators were asked to examine an alternative replacement package. The alternative package would: 1) establish a standard impact limit of 0.5 acres, and a standard PCN threshold of 0.10 acres, for all replacement permits for which impact limits and PCN thresholds were proposed under the original replacement package, and; 2) eliminate General Conditions 25-27 (Critical Resource Waters, Impaired Waters, and Floodplains). The results of the permitting change and direct cost analysis for the alternative package are presented in Table 4.2.

The alternative package is estimated to result in 2,826 additional standard permit applications, or about 40% fewer than that estimated for the original replacement package. The direct compliance costs corresponding to these permitting changes are estimated to be \$34 million, or about 30% less than that estimated for the original replacement package. The added Corps permitting budget that would be needed to maintain current levels of permitting efficiency is estimated to be about \$6 million, or roughly 50% less than that estimated for the original replacement package.

A permitting time analysis was also conducted to estimate the effects of the alternative package on permit processing time in the event that the Corps annual permitting budget remained roughly at current levels. Under one estimation scenario, permit application processing times and backlogs would increase to about 1.9 times the levels experienced in FY 98 by the second year under the alternative package. In year 5, processing times and backlogs would be about 2.4 times FY 98 levels, or about half that estimated for the original replacement package.

Table 4.2. Alternative Replacement Package: Summary of Estimated Changes in Permitting and Direct Costs

Estimated Permitting Changes Involving Activities Authorized Under NWPs in FY 98	Number of Activities	Unit Direct Compliance Costs	Unit Corps Costs	Total Direct Compliance Costs (\$)	Total Corps Costs (\$)
FY 98 Reported (PCN) NWP 26 Activities Shifting to:	6,310				
New/Modified NWP PCN	4,018	0	0	0	0
Non-reporting NWP	24	-5,200	-503	-124,800	-12,072
Standard Permit	2,268	8,800	1,530	19,958,400	3,470,040
Total Costs for Reported NWP 26 Activities				19,833,600	3,457,968
FY 98 Unreported (Non-PCN) NWP 26 Activities Shifting to:	1,981				
New/Modified NWP PCN	1,423	5,200	503	7,399,600	715,769
Standard Permit	558	13,000	2,033	7,254,000	1,134,414
Total Costs for Unreported NWP 26 Activities				14,653,600	1,850,183
Total Annual Change in NWP 26 PCNs Total Annual Change in Standard Permits	-869 2,826				
Total Annual Costs of All Permitting Changes	Í			34,487,200	6,317,081*

^{*} In addition to the variable permitting costs included in the column, this estimate of total Corp administrative cost includes an estimated level of extra fixed costs needed by the Corps to implement the replacement package while maintaining current levels of permitting efficiency. It is based on an estimated additional fixed cost (\$1,008,930)

needed by each district that processes less NWPs than other types of permits combined (see Section 3.2 and Appendix C). The permitting change analysis predicts that one additional district would be in this situation under the alternative replacement package, indicating that an extra \$1,080,930 in total Corps permitting budget would be needed.

5. REFERENCES

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APPENDIX A

OVERVIEW OF REPLACEMENT PACKAGE PROVISIONS

Table A1. Summary of July 21, 1999, New and Modified Nationwide Permits

NWP No./ Activity	Acre/ LF Limit	PCN Threshold/ Requirements	Scope of Applicable Waters	Other Requirements Associated with New & Modified General Conditions
Modified NWPs				
3 - Maintenance Minimum Necessary (No change)		None	All Waters (No change)	GC 25 requires notification for activities in designated Critical Resource Waters (DCRW) and adjacent wetlands GC 26 prohibits discharges into Impaired
Removal of Accumulated Sediments Projects may have been authorized by NWP 26	Minimum necessary, up to 200 feet from structure	All	All Waters	Waters and adjacent wetlands unless it is demonstrated that the NWP 3 activity will not cause further impairment (1 acre limit does not apply to NWP 3) GC 27 does not Apply
Restoration of upland areas damaged by storms Projects may have been authorized by NWP 26	Restore uplands to original location; up to 50 cubic yards dredging to remove obstructions	All	All Waters	
7 – Outfall Structures & Maintenance	Minimum Necessary	All (No Change)	All Waters (No change)	GC 25 prohibits discharges into DCRW and adjacent wetlands GC 26 prohibits discharges into Impaired Waters and adjacent wetlands unless it is demonstrated that the activity will not cause further impairment; prohibits discharges greater than 1 acre in these waters. GC 27 does not apply.
12 – Utility Line Activities Minimum Necessary (No Change)		Mechanized landclearing of forested wetland for utility line right-of-way; utility lines in Section 10 waters; utility lines in waters of the U.S., excluding overhead lines, for a distance of more than 500 feet; utility lines installed in waters of the U.S. parallel to stream bed PCN for all activities in Impaired Waters and adjacent wetlands (GC 26) and for any discharges into the 100 year floodplain (GC 27) PCN must include delineation of special aquatic sites	All Waters (No change)	GC 9 requires WQ Management Plan (WQMP) if not already required. GC 21 – work must maintain preconstruction flows and reduce flooding and erosion. GC 25 prohibits use of NWP 12 for discharges into designated Critical Resource Waters and adjacent wetlands GC 26 prohibits NWP 12 discharges into Impaired Waters and adjacent wetlands unless it is demonstrated that the activity will not cause further impairment; prohibits discharges greater than 1 acre in these waters. GC 27 prohibits NWP 12 discharges into waters of the US within the 100-year floodplain unless the prospective
Substations (Projects may have been authorized by NWP 26)	1 acre	0.25 acre PCN must include delineation of special aquatic sites	Non-tidal waters, excluding non-tidal wetlands adjacent to tidal waters	permittee demonstrates to the DE that the activity will not decrease flood-holding capacity.
• Tower Foundations (Projects may have been authorized under NWP 26)	Minimum necessary	None PCN must include delineation of special aquatic sites	All waters	
Permanent Access Roads (Projects may have been authorized under NWP 26)	1 acre	Permanent above grade access roads >500 LF in waters PCN must include delineation of special aquatic sites	Non-tidal waters, excluding non-tidal wetlands adjacent to tidal waters	

Table A1. Summary of July 21, 1999, New and Modified Nationwide Permits (continued)

14 - Linear Transportation Crossings • Public • Linear Transportatio n Crossings- Private	l acre for non- tidal waters, excluding non- tidal wetlands adjacent to tidal waters; 0.33 acres and 200 LF in tidal waters and non- tidal wetlands adjacent to tidal waters	0.25 acre; all discharges into special aquatic sites PCN for all activities in Impaired Waters and adjacent wetlands (GC 26) and for any discharges into the 100 year floodplain (GC 27) PCN must include: Mitigation proposal for permanent losses, Statement describing how temporary losses are minimized, and Delineation of special aquatic sites	Large projects – nontidal waters, excluding non-tidal wetlands adjacent to tidal waters Small projects – All other Waters All Waters (No Change)	GC 9 requires WQMP if not already required. GC 21 – work must maintain preconstruction flows and reduce flooding and erosion GC 25 prohibits discharges in DCRW and adjacent wetlands GC 26 prohibits discharges into Impaired Waters and adjacent wetlands unless it is demonstrated that the activity will not cause further impairment; prohibits discharges greater than 1 acre in these waters. GC 27 prohibits NWP 12 discharges into waters of the US within the 100-year floodplain unless the prospective permittee demonstrates to the DE that the activity will not decrease flood-holding capacity.
27 – Stream and Wetland Restoration Activities	No acreage limit (No Change)	PCN required only for activities that are not on Federal land, or do not have agreements with FWS,NRCS, OSM, or state mining agency PCN for all activities in Impaired Waters and adjacent wetlands (GC 26)	All Waters (No Change)	GC 21 – work must maintain preconstruction flows and reduce flooding and erosion. GC 25 requires notification for all discharges into DCRW and adjacent wetlands GC 26 prohibits NWP 27 discharges into Impaired Waters and adjacent wetlands unless it is demonstrated that the activity will not cause further impairment; prohibits discharges greater than 1 acre in these waters. GC 27 does not apply
40 Agricultural Activities	2 acres; indexed for playas, potholes, vernal pools not to exceed 1 acre; 1 acre for farm buildings; none for relocation of existing Drainage ditches.	NRCS participants submit report to Corps w/in 30 days. All others 0.25; > 500 LF for relocating drainage ditches in nontidal streams PCN must include: Delineation of affected wetlands Compensatory mitigation proposal	Non-tidal waters, excluding non-tidal wetlands adjacent to tidal wetlands; non-tidal streams (Section 404 only)	GC 9 requires WQMP if not already required GC 21 – work must maintain preconstruction flows and reduce flooding and erosion. GC 25 prohibits discharges into DCRWs. GC 26 prohibits discharges into Impaired Waters and adjacent wetlands unless it is demonstrated that the activity will not cause further impairment. Prohibits discharges greater than 1 acre in impaired waters and adjacent wetlands. GC 27 prohibits the use of NWP 40 to authorize permanent above grade fills in waters of the US within the 100 year FP.
NEW NWPs 39 – Residential, Commercial, and	Indexed based on project area	>0.25 acre, all discharges into open waters below the OHWM	Non-tidal waters, excluding non-tidal	GC 9 requires WQMP if not already required.
Industrial Developments (Projects may have been authorized by NWP26)	max. 3 acres. Channelization in streams > 1cfs prohibited	PCN must include: Avoidance & minimization statement Delineation of special aquatic sites Compensatory mitigation	wetlands adjacent to tidal waters	GC 21 – work must maintain preconstruction flows and reduce flooding and erosion. GC 25 prohibits discharges into DCRWs. GC 26 prohibits discharges into Impaired Waters and adjacent wetlands unless it is demonstrated that the activity will not cause further impairment. Prohibits discharges greater than 1 acre in impaired waters and adjacent wetlands. GC 27 prohibits the use to authorize permanent above grade fills in waters of the US within the 100 year FP.

Table A1. Summary of July 21, 1999, New and Modified Nationwide Permits (continued)

41 – Reshaping Existing Drainage Ditches (Projects may have been authorized by NWP 26)	None	PCN required for sidecasting excavated material into waters or reshaping >500 LF of drainage ditch PCN for all activities in Impaired Waters and adjacent wetlands (GC 26)	Non-tidal waters, excluding non-tidal wetlands adjacent to tidal waters	GC 21 – work must maintain preconstruction flows and reduce flooding and erosion. GC 25 and GC 27 do not apply GC 26 prohibits NWP 41 discharges into Impaired Waters and adjacent wetlands unless it is demonstrated that the activity will not cause further impairment; prohibits discharges greater than 1 acre in these waters.
42 – Recreational Facilities (Projects may have been authorized under NWP 26)	1 acre	>0.25, >500 LF of perennial or intermittent stream bed PCN must include: Delineation of special aquatic sites	Non-tidal waters, excluding non-tidal wetlands adjacent to tidal waters	GC 9 requires WQ Management Plan if not already required GC 21 – work must maintain preconstruction flows and reduce flooding and erosion. GC 25 prohibits discharges into DCRWs and adjacent wetlands GC 26 prohibits NWP 42 discharges into Impaired Waters and adjacent wetlands unless it is demonstrated that the activity will not cause further impairment; prohibits discharges greater than 1 acre in these waters. GC 27 prohibits the use of NWP 42 to authorize permanent above grade fills in waters of the US within the 100 year Floodplain
43 – Stormwater Management Facilities	2 acres for new facilities; new facilities prohibited in perennial streams; no limit for maintenance	>1/4 acre, >500 LF intermittent stream bed PCN for all activities in Impaired Waters and adjacent wetlands (GC 26) PCN must include: Delineation of special aquatic sites Compensatory Mitigation Proposal Maintenance Plan Avoidance and minimization statement	Non-tidal waters, excluding non-tidal wetlands adjacent to tidal waters	GC 9 requires WQ Management Plan if not already required GC 21 – work must maintain preconstruction flows and reduce flooding and erosion. GC 25 prohibits discharges into DCRWs and adjacent wetlands. GC 26 prohibits NWP 43 discharges into Impaired Waters and adjacent wetlands unless it is demonstrated that the activity will not cause further impairment; prohibits discharges greater than 1 acre in these waters. GC 27 prohibits the use of NWP 43 to authorize permanent above grade fills in waters of the US within the 100 year Floodplain.
44 – Mining Activities • Aggregate • Hard rock/mineral	2 acres, including lacre limit for support activities No beneficiation and mineral processing w/in 200 ft of OHWM of any open water body. No aggregate mining w/in 100 ft of stream where flow is >1cfs	All Activities PCN must include: Compensatory mitigation for impacts Statement of avoidance and minimization Description of measures to minimize adverse affects to waters Reclamation plan.	Aggregate Mining: limited to isolated waters, <1cfs streams, non-tidal wetlands adjacent to headwater streams, and lower perennial streams, excluding non-tidal wetlands adjacent to lower perennial streams Hard Rock/Mineral Mining: limited to isolated waters and non-tidal wetlands adjacent to	GC 9 requires WQ Management Plan if not already required GC 21 – work must maintain preconstruction flows and reduce flooding and erosion. GC 25 prohibits discharges into DCRWs and adjacent wetlands GC 26 prohibits NWP 44 discharges into Impaired Waters and adjacent wetlands unless it is demonstrated that the activity will not cause further impairment; prohibits discharges greater than 1 acre in these waters. GC 27 prohibits permanent above grade fills in waters of the US within the 100 year Floodplain

Table A2. Summary of 1999 Replacement Package General Conditions. Not all modified General Conditions are discussed.

General Condition No.	Title	Affected NWPs	Requirement
Modified			
9	Water Quality	12, 14, 17, 18, 32, 39, 40, 42, 43, and 44	A water quality management plan (WQMP) must be adopted if necessary to ensure that the activities authorized by those NWPs will have no more than minimal adverse effects on water quality. If state or local requirements are adequate, the Corps does not have to require a WQMP. For activities involving discharges into waters of the US, vegetated buffers next to open waters will be required, to the maximum extent practicable. Vegetated buffers will normally be 50-125 feet wide, but width will be determined by DE.
13	Notification	All permits requiring PCN	The Corps can request additional information to make PCN complete only once and must do so within 30 days. Corps has 45 days to determine if proposed work is authorized by NWP. Agency Coordination is required only for those reporting NWPs that result in the loss of greater than 1 acre of waters of the U.S. Agencies will have a total of 25 days to provide comments to the Corps. In addition, a delineation of special aquatic sites must now be submitted with PCNs for NWPs 7, 12, 39, 40, 42, and 43. Either a conceptual or detailed mitigation plan may be submitted with the PCN.
19	Mitigation	All permits requiring PCN	Requires on-site avoidance and minimization to the maximum extent practicable. Allows the Corps to require compensatory mitigation to offset the adverse effects to the aquatic environment and ensure that the net impacts are minimal. Vegetated buffers may be part of the compensatory mitigation if there are open waters on the site; the DE determines the width of the vegetated buffer.
21	Management of Water	All NWPs	To the maximum extent practicable, project must be designed to maintain preconstruction downstream flow conditions and
Now	Flows		reduce adverse effects such as flooding or erosion.
New	Designated	All but 1 2 4 5	Condition applies to designated Critical Resource Waters and
25	Designated Critical Resource Waters	All but 1, 2, 4, 5, 6, 9, 11, 20, 24, 32, 41	adjacent wetlands Prohibits NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44 PCN required for 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38
26	Impaired Waters	All activities resulting in the discharge of dredged or fill material into waters of the US	Prohibits discharges causing the loss of greater than 1 acre of impaired waters and wetlands adjacent to those impaired waters. One acre limit does not apply to NWP 3 activities PCN for impacts less than 1 acre in Impaired Waters (Applicant demonstrates that activity will not cause further impairment; Corps must coordinate with state agency for impacts over ½ acre)
27	Fills within 100-Year Floodplain	12, 14, 21, 29, 39, 40, 42, 43, 44	Prohibits use of 21, 29, 39, 40, 42, 43, and 44 to authorize permanent above grade fills in 100-year floodplain. PCN required for all activities to allow DE to determine if the project is located within the 100-year floodplain. NWPs 12 and 14 applicants must demonstrate that activity will not decrease the flood holding capacity or have more than minimal effects on hydrology, flow regime or volume of waters. Condition does not apply to projects located in the portion of the watershed where the drainage area is less than 1 square mile.

APPENDIX B

Estimation of Permitting Change

B.1 Introduction

Fiscal year 1998 (FY 98) data from thirty-five districts were used to estimate changes in the Corps' permit workload attributable to the proposed changes to the system of NWP permits. Charleston, Honolulu, and New England districts did not provide data. Of these three districts, only Charleston is likely to have had a significant number of nationwide permits in FY 98. The national results of the permitting shift analysis are presented in Table 2.2 in the main text. District level results are presented in Tables B2 through B23.

B.2 Number of Reported NWP 26 authorizations in FY 98

For each district, the NWP 26 data were sorted first by "Actid," and then by "NWP 26 Activity Type." The number of NWP 26 authorizations was determined for each activity type by counting the number of Actids that had either a "Final Permit Decision" that was "Issued," or a "Nationwide Permit Final Decision" that was "Verified." Tallying across districts for each activity type provided the total number of authorizations in FY 98, as reported in the second column of Table 2.2.

B.2.1 Number of Reported NWP 26 Authorizations Required to Report

Each Actid was designated as either required to report (non-tidal or tidal impacts greater than 1/3 acre) or not required to report (non-tidal and tidal impacts less than or equal to 1/3 acre). Tallying the number of authorizations required to report across districts provided a national total of authorizations required to report for each activity type.

B.3 Permit Shifts of Reported NWP Authorizations in FY 98

Estimation of the number of Reporting FY 98 authorizations that would have been forced to apply for a SP is discussed below. The discussion is organized by the new or modified NWPs to which NWP 26 activities would be shifting.

B.3.1 Authorizations with No New or Modified NWP

All authorizations without new or modified NWPs to accommodate them were assumed to shift to SP. These include the Silvicultural, Impoundment, and Treatment categories, as well as 28.7% of the authorizations in the Other category. The data provided by the districts did not further differentiate the "Other" NWP 26 activities. Disaggregated data for the "Other" category were available for May 1, 1997 through December 31, 1999. Within that data set, 2.2% of the Other authorizations were for ponds, 1.7% were for levees/dams, 8.1% were for erosion/stabilization, 10.4% were for channel work (assuming half of the channel work/cleanout authorizations were for channel work), and 6.3% were miscellaneous, none of which have an accommodating new or modified NWP. The FY 98 NWP 26 authorizations in each district were assumed to follow the same distribution.

B.3.2 Authorizations Accommodated by NWP 39

All authorizations in the Institutional, Retail Individual, Retail Multiple, Residential Multiple, and Industrial categories could potentially qualify for the new NWP 39. The single unit housing and parking lots authorizations within the Other category could also potentially qualify for NWP 39. Based on the disaggregated Other data, 41.1% of the authorizations from the Other category were for these two kinds of projects — 36% were single unit housing projects and 5.1% were parking lots.

NWP 39 uses an indexing scheme to determine the number of acres a project is permitted to impact before it must apply for a SP. Average project sizes are reported in Table 2.1 of the main text for each of the relevant activity categories. These translate directly into maximum acreage impacts permissible under NWP 39 (also reported in Table 2.1). Within each district, the permitted acreage and linear feet impacts of each Institutional, Retail Individual, Retail Multiple, and Industrial authorization were compared to their respective thresholds to determine if that authorization would be forced to apply for a SP or would qualify for NWP 39.

Those authorizations with impacts below their respective thresholds were then subjected to GC 27. Of those authorizations, 52.8% of them were assumed to be in the 100-year floodplain (see footnote 3 in section 2.1.2). GC 27 requires activities qualifying for NWP 39 that would result in permanent, abovegrade fill within the 100-year floodplain to apply for a SP. All of the activities qualifying for NWP 39 were assumed to result in permanent, above-grade fill. GC 27 permits activities within the 100-year floodplain – even those that result in permanent, above grade fill – in areas that drain less than 1 square mile. It was assumed that 20% of the authorizations above headwaters or in isolated waters of the United States were in areas that drained less than 1 square mile (see footnote 5 of section 2.1.2). Therefore, for each authorization above headwaters or in isolated waters that had not shifted to SP due to the acreage and linear feet thresholds, 0.4224 permits were assumed to shift to SP due to GC 27. On the other hand, none of the authorizations below headwaters were assumed to be in areas that drained less than 1 square mile. Therefore, for each authorization below headwaters that had not shifted to SP due to the acreage and linear feet thresholds, 0.528 permits were assumed to shift to SP due to GC 27.

The authorizations that did not exceed the NWP 39 acreage and linear feet thresholds were also subjected to GC 26. GC 26 requires NWP 39 activities within impaired waters of the United States to apply for a SP for impacts greater than one acre. Only waters identified through the 303(d) process as impaired due to nutrients, organic enrichment resulting in low dissolved oxygen concentration in the water column, sedimentation and siltation, habitat alteration, suspended solids, flow alteration, turbidity, or the loss of wetlands are subject to GC 26. Approximately 15% of the waters of the United States are covered by GC 26. It was then assumed that 15% of FY 98 authorizations, for all categories, were in impaired waters. Table B1 presents data concerning the percentage of different types of water bodies impaired by the sources identified in GC 26.

Based on the percentage of impaired waters, for each authorization with acreage impacts (either tidal or non-tidal) greater than one acre that did not exceed the indexed threshold for NWP 39, 0.1532 permits (that is, 15.32% of those authorizations) were assumed to shift to SP due to GC 26.

For each activity category, the total number of authorizations shifting to SP was estimated by summing those shifting due to NWP 39 thresholds, those shifting due to GC 27, and those shifting due to GC 26. Summing across all districts provides an estimate of the total number of authorizations within each category that would require a SP under the proposed changes to the Corps' system of nationwide permits. This is reported in the fifth column of Table 2.2.

For each activity category, those authorizations that did not shift to SP were assumed to report to the Corps via pre-construction notification in FY 2000.

Authorizations within the Other NWP 26 category were analyzed in a similar manner. The permitted acreage and linear feet impacts of each Other authorization were compared to both the single unit housing and parking lot thresholds. When an authorization exceeded the single unit housing threshold(s), 0.36 permits were assumed to shift to SP; when an authorization exceeded the parking lot threshold(s), 0.051 permits were assumed to shift to SP. If an authorization did not exceed the single unit housing (parking

lot) threshold and was above headwaters or in isolated waters 0.152 (0.0215) permits were assumed to shift to SP due to GC 27. Likewise, GC 27 shifted 0.19 (0.0269) permits to SP for authorizations below headwaters qualifying for NWP 39 based on the single unit housing (parking lot) thresholds. Neither the single unit housing nor the parking lot thresholds were greater than 1 acre, so all authorizations affected by GC 26 would already have shifted to SP due to the acreage threshold. As a result, GC 26 did not need to be considered.

B.3.3 Authorizations Accommodated by NWP 40

The proposed NWP 40 modifies the existing NWP 40 by expanding the types of activities it permits. It was assumed that none of the NWP 26 authorizations in FY 98 in the Agricultural category were for farm building pads – these activities are already covered by the current NWP 40 and presumably would have been recorded as NWP 40 permits if they had been for farm building pads. It was further assumed that none of the FY 98 authorizations were in waters that would require indexing to qualify for NWP 40 – the new maximum impact area of 2 acres was adopted for all authorizations. Authorizations exceeding 2 acres of permitted impacts were assumed to shift to SP.

Of the agricultural authorizations that exceeded the FY 98 PCN threshold (1/3 acre) but did not exceed the new SP threshold (2 acres), those that were commercial projects were assumed to be for improving agricultural production, half of which were assumed to be undertaken by USDA program participants who would no longer need a permit from the Corps, thereby shifting them to Non-Reporting. The agricultural authorizations that did not shift to Non-Reporting and had impacts below the NWP 40 threshold were then subjected to GC 27 and GC 26 in the same manner described in section B3.2 above.

B.3.4 Authorizations Accommodated by NWP 42

Using data from May 1, 1997 through Decmber 31, 1997, 4.6% of FY 98 authorizations in the Other category were assumed to be for recreational facilities, and would therefore potentially qualify for NWP 42. For each Other authorization with impacts greater than 1 acre, 0.046 permits were assumed to shift to SP due to the requirements of NWP 42. The remaining recreational facility authorizations were then subjected to GC 27 and GC 26 in the same manner described in section B.3.2 above.

B.3.5 Authorizations Accommodated by NWP 43

Authorizations in the Storm Water category with acreage impacts exceeding 2 acres shifted to SP due to the requirements of NWP 43. Those with impacts less than or equal to 2 acres were subjected to GC 26 and GC 27 in the same manner described in section B.3.2 above.

B.3.6 Authorizations Accommodated by NWP 44

Authorizations in the Mining Aggregates and Mining Other categories with acreage impacts exceeding 2 acres shifted to SP due to the requirements of NWP 44. Those with impacts less than or equal to 2 acres were subjected to GC 26 and GC 27 in the same manner described in section B.3.2 above.

 $^{^{27}}$ The single unit housing factor of 0.152=0.36*0.528*0.8. The parking lot factor of 0.0215=0.051*0.528*0.8.

B.3.7 Authorizations Accommodated by NWP 3

Authorizations for cleanout work were assumed to potentially qualify for NWP 3. Using data from May 1, 1997 through December 31, 1997, the percentage of the Other authorizations for channel work/cleanout was determined (20.9%). Half of those were assumed to be for cleanout. For each authorization with linear impacts exceeding 200 feet (the new NWP 3 linear threshold for cleanout work) 0.1045 permits were assumed to shift to SP. GC 27 does not pertain to activities permitted by NWP 3. It was assumed GC 26's rebuttable presumption of more than minimal impacts of NWP 3 activities would be successfully rebutted, and no new shifts would occur due to GC 26.

B.3.8 Activities Accommodated by NWP 12

All NWP 26 authorizations in FY 98 for utility lines are assumed to potentially qualify for NWP 12. Using data from May 1, 1997 through December 31, 1997, the percentage of authorizations in the Other category for utility lines was estimated to be 5.6%. A set of assumptions was made concerning impact size and the type of work permitted: (i) all authorizations with impacts greater than 1/3 acre were assumed to be for substations and access roads, and (ii) all authorizations with linear feet impacts were assumed to be for access roads. For each authorization in the Other category with impacts greater than 1 acre 0.056 were assumed to shift to SP due to the new NWP 12 requirements. GC 27 does not pertain to activities permitted by NWP 12. The acreage impact for shifting to SP in NWP 12 is the same as that in GC 26, so no new shifts occur due to GC 26.

B.3.9 Activities Accommodated by NWP 14

All NWP 26 authorizations in FY 98 in the transportation category are assumed to potentially qualify for NWP 14. Each public (government) authorization that was not in a marine or estuary system with acreage impacts exceeding 1 acre was assumed to shift to SP. Of all the private (non-government) authorizations and the public authorizations in marine or estuary systems, those with acreage impacts greater than 1/3 acre or linear impacts greater than 200 feet were assumed to shift to SP. GC 27 offers a rebuttable presumption of more than minimal impacts to activities permitted by NWP 14, a presumption that was assumed to be successfully rebutted. The acreage impacts for shifting public and private activities to SP in NWP 14 is the same as or lower than that in GC 26, so no new shifts occur due to GC 26.

B.4 Permit shifts of Non-Reported Activities

For each activity category, the number of previously unreported activities reporting after the new regulations take effect was assumed to equal the number of FY 98 authorizations that had acreage impacts less than 1/3 acre (the FY 98 PCN threshold) but also had acreage impacts that exceed the new acreage and linear feet PCN thresholds. These activities were then subjected to GC 27 and GC 26 in the same manner described in section B.3, shifting a portion of them to SP as a result. The last three columns of Table 2.2 present the result of the Non-Reported analysis.

B.5 Other NWP Shifts

In addition to eliminating NWP 26, several nationwide permits are modified by the proposed changes, namely NWP 3, 7, 12, 14, 21, 29, and 40. Of these permits, only the proposed modifications to NWP 14 are likely to affect activities authorized under the current NWP program. That is, all of the NWP 3, 7, 12, 21, 29, and 40 authorizations in FY 98 would qualify for their respective NWP under the proposed

changes, prior to being subject to GC 26 and 27. Shifts in these permits due to the general conditions were analyzed in the same manner as the NWP 26 GC-induced shifts described above.

The proposed modifications to NWP 14 would affect FY 98 authorizations. These authorizations were analyzed in the same manner described in Section B.3.9 above.

B.6 Estimated Permitting Changes for FY 1998 Activities Authorized under NWP 26: An alternative to the replacement package—an addendum.

Table B24 shows estimated permitting changes by activity category for the alternative discussed in Section 4.6 (Addendum).

Table B1: Estimation of Impaired Waters

Type of Water	% All US Waters		% Impaired Due to ^a				% All US Waters Impaired
		Siltation	Nutrients	Oxygen Depletion	Habitat Alteration	Suspended Solids	
Riverine	3.6	3.5	2.7	1.9	1.3	1.3	0.4
Estuarine	16.9	0	15.9	8.7	4.3	0	4.9
Palustrine Pond/Lake	17.1	4	8.1	3.2	0	2	3.0
Great Lakes	26.8	0	5.6	5.6	0	0	3.0
Adjacent Palustrine	35.6	3.5	2.7	1.9	1.3	1.3	3.8
Total	100						15.1

a: Factors included in GC 26 not listed here are assumed to have negligible effect on the total amount of impaired US waters. *Source*: USEPA 1996 Water Quality Inventory

Table B2: All NWP 26 Shifts by District

District	FY 1998 PCN	FY 2000 Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	22	0	7	14
Albuquerque	102	0	66	35
Baltimore	7	0	3	4
Buffalo	306	0	110	196
Charleston	300	V	110	170
Chicago	25	0	6	19
Detroit	64	0	33	31
Fort Worth	81	0	44	37
Galveston	76	0	29	47
Honolulu	, 0	Ŭ	2)	.,
Huntington	210	0	81	128
Jacksonville	514	0	303	211
Kansas City	239	2	99	138
Little Rock	59	0	16	43
Los Angeles	144	0	86	58
Louisville	107	1	52	54
Memphis	83	2	38	43
Mobile	173	0	61	112
Nashville	68	0	19	49
New England				
New Orleans	5	0	3	2
New York	91	0	35	56
Norfolk	531	0	205	326
Omaha	606	6	300	300
Philadelphia	15	0	2	13
Pittsburgh	28	0	8	20
Portland	101	0	48	52
Rock Island	379	5	198	176
Sacramento	137	0	51	85
San Francisco	20	0	8	12
Savannah	353	1	105	247
Seattle	124	0	47	77
St. Louis	100	0	24	76
St. Paul	970	3	477	491
Tulsa	21	0	9	12
Vicksburg	30	0	11	19
Walla Walla	56	1	33	22
Wilmington	463	1	178	284
Total	6310	24	2799	3487

Table B3: NWP 26 Industrial Shifts by District

District	EV 1009 DCN	FY 2000	EV 2000 DCN	EV 2000 CD
District	FY 1998 PCN	Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	2	0	1	1
Albuquerque	3	0	2	1
Baltimore	0	0	0	0
Buffalo	13	0	6	7
Charleston			0	4
Chicago	1	0	0	1
Detroit	1	0	1	0
Fort Worth	2	0	1	1
Galveston	2	0	1	1
Honolulu			0	
Huntington	5	0	2	3
Jacksonville	25	0	14	11
Kansas City	2	0	1	1
Little Rock	4	0	2	2
Los Angeles	3	0	2	1
Louisville	5	0	3	2
Memphis	3	0	1	2
Mobile	8	0	2	6
Nashville	3	0	1	2
New England			0	
New Orleans	0	0	0	0
New York	3	0	1	2
Norfolk	0	0	0	0
Omaha	10	0	4	6
Philadelphia	0	0	0	0
Pittsburgh	3	0	1	2
Portland	6	0	3	3
Rock Island	1	0	1	0
Sacramento	12	0	6	6
San Francisco	1	0	1	0
Savannah	25	0	9	16
Seattle	1	0	1	0
St. Louis	3	0	2	1
St. Paul	21	0	9	12
Tulsa	1	0	1	0
Vicksburg	1	0	0	1
Walla Walla	1	0	0	1
Wilmington	26	0	10	16
Total	197	0	87	110

Table B4: NWP 26 Agricultural Shifts by District

Division	EV 1000 PCN	FY 2000	EV 2000 PCN	EV 2000 GD
District	FY 1998 PCN	Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	1	0	1	0
Albuquerque	3	0	1	1
Baltimore	1	0	1	0
Buffalo	6	0	3	3
Charleston				
Chicago	0	0	0	0
Detroit	2	0	0	1
Fort Worth	2	0	1	1
Galveston	0	0	0	0
Honolulu				
Huntington	8	0	2	6
Jacksonville	5	0	2	2
Kansas City	52	2	17	32
Little Rock	5	0	1	3
Los Angeles	1	0	1	0
Louisville	16	1	7	8
Memphis	43	2	20	21
Mobile	0	0	0	0
Nashville	2	0	0	1
New England				
New Orleans	0	0	0	0
New York	0	0	0	0
Norfolk	1	0	0	1
Omaha	127	6	57	64
Philadelphia	1	0	1	0
Pittsburgh	0	0	0	0
Portland	3	0	2	1
Rock Island	98	5	11	82
Sacramento	4	0	2	2
San Francisco	1	0	0	1
Savannah	19	1	9	9
Seattle	5	0	3	2
St. Louis	3	0	0	2
St. Paul	53	3	24	27
Tulsa	3	0	1	2
Vicksburg	8	0	4	4
Walla Walla	12	1	6	5
Wilmington	23	1	11	11
Total	508	24	189	295

Table B5: NWP 26 Silviculture Shifts by District

		FY 2000		
District	FY 1998 PCN	Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	0	0	0	0
Albuquerque	0	0	0	0
Baltimore	0	0	0	0
Buffalo	0	0	0	0
Charleston				
Chicago	1	0	0	1
Detroit	0	0	0	0
Fort Worth	0	0	0	0
Galveston	0	0	0	0
Honolulu				
Huntington	2	0	0	2
Jacksonville	0	0	0	0
Kansas City	0	0	0	0
Little Rock	0	0	0	0
Los Angeles	0	0	0	0
Louisville	0	0	0	0
Memphis	0	0	0	0
Mobile	0	0	0	0
Nashville	0	0	0	0
New England				
New Orleans	0	0	0	0
New York	0	0	0	0
Norfolk	0	0	0	0
Omaha	0	0	0	0
Philadelphia	0	0	0	0
Pittsburgh	1	0	0	1
Portland	0	0	0	0
Rock Island	0	0	0	0
Sacramento	0	0	0	0
San Francisco	0	0	0	0
Savannah	2	0	0	2
Seattle	0	0	0	0
St. Louis	0	0	0	0
St. Paul	5	0	0	5
Tulsa	0	0	0	0
Vicksburg	0	0	0	0
Walla Walla	0	0	0	0
Wilmington	1	0	0	1
Total	12	0	0	12

Table B6: NWP 26 Mining Aggregates Shifts by District

District	FY 1998 PCN	FY 2000 Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	0	0	0	0
Albuquerque	2	0	1	1
Baltimore	0	0	0	0
Buffalo	2	0	1	1
Charleston			0	
Chicago	0	0	0	0
Detroit	0	0	0	0
Fort Worth	0	0	0	0
Galveston	0	0	0	0
Honolulu			0	
Huntington	2	0	0	2
Jacksonville	4	0	2	2
Kansas City	3	0	0	3
Little Rock	0	0	0	0
Los Angeles	3	0	2	1
Louisville	1	0	0	1
Memphis	0	0	0	0
Mobile	1	0	1	0
Nashville	0	0	0	0
New England			0	
New Orleans	0	0	0	0
New York	2	0	1	1
Norfolk	0	0	0	0
Omaha	3	0	1	2
Philadelphia	0	0	0	0
Pittsburgh	1	0	0	1
Portland	3	0	2	1
Rock Island	1	0	1	0
Sacramento	0	0	0	0
San Francisco	0	0	0	0
Savannah	0	0	0	0
Seattle	1	0	0	1
St. Louis	0	0	0	0
St. Paul	4	0	2	2
Tulsa	0	0	0	0
Vicksburg	1	0	0	1
Walla Walla	1	0	1	0
Wilmington	3	0	2	1
Total	38	0	17	21

Table B7: NWP 26 Mining Other Shifts by District

D	EV 1000 PGV	FY 2000	EV 2000 PGV	EM 2000 GD
District	FY 1998 PCN	Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	0	0	0	0
Albuquerque	8	0	5	3
Baltimore	0	0	0	0
Buffalo	1	0	1	0
Charleston			0	
Chicago	0	0	0	0
Detroit	0	0	0	0
Fort Worth	0	0	0	0
Galveston	1	0	1	0
Honolulu			0	
Huntington	7	0	2	5
Jacksonville	4	0	2	2
Kansas City	5	0	2	3
Little Rock	2	0	1	1
Los Angeles	7	0	4	3
Louisville	1	0	1	0
Memphis	0	0	0	0
Mobile	3	0	2	1
Nashville	2	0	1	1
New England			0	
New Orleans	0	0	0	0
New York	0	0	0	0
Norfolk	0	0	0	0
Omaha	10	0	4	6
Philadelphia	0	0	0	0
Pittsburgh	8	0	1	7
Portland	0	0	0	0
Rock Island	4	0	2	2
Sacramento	0	0	0	0
San Francisco	0	0	0	0
Savannah	0	0	0	0
Seattle	0	0	0	0
St. Louis	0	0	0	0
St. Paul	6	0	2	4
Tulsa	0	0	0	0
Vicksburg	0	0	0	0
Walla Walla	2	0	1	1
Wilmington	2	0	1	1
Total	73	0	31	42

Table B8: NWP 26 Retail Individual Shifts by District

District	FY 1998 PCN	FY 2000 Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	1	0	1	0
Albuquerque	1	0	1	0
Baltimore	1	0	1	0
Buffalo	16	0	5	11
Charleston			0	
Chicago	1	0	0	1
Detroit	1	0	1	0
Fort Worth	4	0	2	2
Galveston	6	0	2	4
Honolulu	-	-	0	
Huntington	7	0	3	4
Jacksonville	42	0	24	18
Kansas City	1	0	1	0
Little Rock	4	0	2	2
Los Angeles	1	0	1	0
Louisville	11	0	6	5
Memphis	3	0	2	1
Mobile	11	0	4	7
Nashville	6	0	1	5
New England			0	
New Orleans	2	0	1	1
New York	3	0	1	2
Norfolk	0	0	0	0
Omaha	8	0	3	5
Philadelphia	0	0	0	0
Pittsburgh	0	0	0	0
Portland	6	0	2	4
Rock Island	11	0	2	9
Sacramento	1	0	0	1
San Francisco	1	0	1	0
Savannah	10	0	2	8
Seattle	5	0	0	5
St. Louis	2	0	1	1
St. Paul	17	0	4	13
Tulsa	1	0	0	1
Vicksburg	1	0	0	1
Walla Walla	0	0	0	0
Wilmington	28	0	9	19
Total	213	0	82	131

Table B9: NWP 26 Retail Multiple Shifts by District

Alaska	District	FY 1998 PCN	FY 2000 Non-Reporting	FY 2000 PCN	FY 2000 SP
Albuquerque 0 0 0 0 Baltimore 0 0 0 0 Buffalo 27 0 10 17 Charleston 0 0 0 0 Chicago 0 0 0 0 0 Detroit 2 0 1 <td< td=""><td></td><td></td><td></td><td></td><td></td></td<>					
Baltimore 0 0 0 0 Buffalo 27 0 10 17 Charleston 0 0 0 0 Chicago 0 0 0 0 Detroit 2 0 1 1 Fort Worth 10 0 6 4 Galveston 4 0 1 3 Honolulu 0 1 3 1 Huntington 10 0 2 8 Jacksonville 41 0 23 18 Kansas City 2 0 1 1 Little Rock 2 0 1 1 1 Los Angeles 7 0 3 4 1					
Buffalo					
Charleston 0 Chicago 0 0 0 0 Detroit 2 0 1 1 Fort Worth 10 0 6 4 4 6 4 4 1 1 3 Bestance 4 0 1 3 3 Honolulu 0 1 3 4 1 0 0 2 8 Bestance 3 1 4 1 0 0 2 8 Bestance 3 18 1					
Chicago 0 0 0 0 Detroit 2 0 1 1 Fort Worth 10 0 6 4 Galveston 4 0 1 3 Honolulu 0 0 1 3 Huntington 10 0 2 8 Jacksonville 41 0 23 18 Kansas City 2 0 1 1 Little Rock 2 0 1 1 Los Angeles 7 0 3 4 Louisville 3 0 1 2 Memphis 5 0 2 3 Memphis 5 0 2 3 Mobile 8 0 2 6 Nashville 1 0 1 0 New England 0 1 0 0 New York 3 0		21	U		17
Detroit 2		0	0		0
Fort Worth					
Galveston 4 0 1 3 Honolulu 0 0 1 3 Huntington 10 0 2 8 Jacksonville 41 0 23 18 Kansas City 2 0 1 1 Little Rock 2 0 1 1 Los Angeles 7 0 3 4 Louisville 3 0 1 2 Memphis 5 0 2 3 Mobile 8 0 2 3 Mobile 8 0 2 6 Nashville 1 0 1 0 New England 0 0 0 0 New Orleans 1 0 1 0 New Orleans 1 0 1 2 Norfolk 0 0 0 0 Omaha 18 0 <td< td=""><td></td><td></td><td></td><td></td><td></td></td<>					
Honolulu			<u> </u>		
Huntington 10		4	0		
Jacksonville 41 0 23 18 Kansas City 2 0 1 1 Little Rock 2 0 1 1 Los Angeles 7 0 3 4 Louisville 3 0 1 2 Memphis 5 0 2 3 Mobile 8 0 2 6 Nashville 1 0 1 0 New England 0 0 0 0 New Orleans 1 0 1 0 New York 3 0 1 2 Norfolk 0 0 0 0 Omaha 18 0 9 9 Philadelphia 1 0 1 0 Portland 4 0 1 2 Portland 4 0 1 3 Rock Island 0 0 <		10	0		0
Kansas City 2 0 1 1 Little Rock 2 0 1 1 Los Angeles 7 0 3 4 Louisville 3 0 1 2 Memphis 5 0 2 3 Mobile 8 0 2 6 Nashville 1 0 1 0 New England 0 1 0 1 0 New Grleans 1 0 1 0 1					
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Memphis 5 0 2 3 Mobile 8 0 2 6 Nashville 1 0 1 0 New England 0 1 0 0 New Orleans 1 0 1 0 New York 3 0 1 2 Norfolk 0 0 0 0 Omaha 18 0 9 9 Philadelphia 1 0 1 0 Pittsburgh 3 0 1 2 Portland 4 0 1 3 Rock Island 0 0 0 0 Sacramento 10 0 5 5 San Francisco 0 0 0 0 Savannah 19 0 7 12 Seattle 11 0 2 7 St. Louis 9 0 2<					
Mobile 8 0 2 6 Nashville 1 0 1 0 New England 0 1 0 0 New Orleans 1 0 1 0 New York 3 0 1 2 Norfolk 0 0 0 0 Omaha 18 0 9 9 Philadelphia 1 0 1 0 Pittsburgh 3 0 1 2 Portland 4 0 1 3 Rock Island 0 0 0 0 Sacramento 10 0 5 5 San Francisco 0 0 0 0 Savannah 19 0 7 12 Seattle 11 0 2 9 St. Louis 9 0 2 7 St. Paul 11 0					
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New York 3 0 1 2 Norfolk 0 0 0 0 Omaha 18 0 9 9 Philadelphia 1 0 1 0 Pittsburgh 3 0 1 2 Portland 4 0 1 3 Rock Island 0 0 0 0 Sacramento 10 0 5 5 San Francisco 0 0 0 0 Savannah 19 0 7 12 Seattle 11 0 2 9 St. Louis 9 0 2 7 St. Paul 11 0 3 8 Tulsa 2 0 1 1 Vicksburg 1 0 0 1 Walla Walla 1 0 0 1		1	0		0
Norfolk 0 0 0 Omaha 18 0 9 9 Philadelphia 1 0 1 0 Pittsburgh 3 0 1 2 Portland 4 0 1 3 Rock Island 0 0 0 0 Sacramento 10 0 5 5 San Francisco 0 0 0 0 Savannah 19 0 7 12 Seattle 11 0 2 9 St. Louis 9 0 2 7 St. Paul 11 0 3 8 Tulsa 2 0 1 1 Vicksburg 1 0 0 1 Walla Walla 1 0 0 1					
Omaha 18 0 9 9 Philadelphia 1 0 1 0 Pittsburgh 3 0 1 2 Portland 4 0 1 3 Rock Island 0 0 0 0 Sacramento 10 0 5 5 San Francisco 0 0 0 0 Savannah 19 0 7 12 Seattle 11 0 2 9 St. Louis 9 0 2 7 St. Paul 11 0 3 8 Tulsa 2 0 1 1 Vicksburg 1 0 0 1 Walla Walla 1 0 0 1					
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Pittsburgh 3 0 1 2 Portland 4 0 1 3 Rock Island 0 0 0 0 Sacramento 10 0 5 5 San Francisco 0 0 0 0 Savannah 19 0 7 12 Seattle 11 0 2 9 St. Louis 9 0 2 7 St. Paul 11 0 3 8 Tulsa 2 0 1 1 Vicksburg 1 0 0 1 Walla Walla 1 0 0 1					
Portland 4 0 1 3 Rock Island 0 0 0 0 Sacramento 10 0 5 5 San Francisco 0 0 0 0 Savannah 19 0 7 12 Seattle 11 0 2 9 St. Louis 9 0 2 7 St. Paul 11 0 3 8 Tulsa 2 0 1 1 Vicksburg 1 0 0 1 Walla Walla 1 0 0 1					
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Sacramento 10 0 5 5 San Francisco 0 0 0 0 Savannah 19 0 7 12 Seattle 11 0 2 9 St. Louis 9 0 2 7 St. Paul 11 0 3 8 Tulsa 2 0 1 1 Vicksburg 1 0 0 1 Walla Walla 1 0 0 1					
San Francisco 0 0 0 Savannah 19 0 7 12 Seattle 11 0 2 9 St. Louis 9 0 2 7 St. Paul 11 0 3 8 Tulsa 2 0 1 1 Vicksburg 1 0 0 1 Walla Walla 1 0 0 1					
Savannah 19 0 7 12 Seattle 11 0 2 9 St. Louis 9 0 2 7 St. Paul 11 0 3 8 Tulsa 2 0 1 1 Vicksburg 1 0 0 1 Walla Walla 1 0 0 1					
Seattle 11 0 2 9 St. Louis 9 0 2 7 St. Paul 11 0 3 8 Tulsa 2 0 1 1 Vicksburg 1 0 0 1 Walla Walla 1 0 0 1					
St. Louis 9 0 2 7 St. Paul 11 0 3 8 Tulsa 2 0 1 1 Vicksburg 1 0 0 1 Walla Walla 1 0 0 1					
St. Paul 11 0 3 8 Tulsa 2 0 1 1 Vicksburg 1 0 0 1 Walla Walla 1 0 0 1					
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Vicksburg 1 0 0 1 Walla Walla 1 0 0 1					
Walla Walla 1 0 0 1					
	•				
17 minington 30 0 12 16					
Total 246 0 98 148			i e		

Table B10: NWP 26 Residential Multiple Shifts by District

District	FY 1998 PCN	FY 2000 Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	6	0	2	4
Albuquerque	5	0	3	2
Baltimore	3	0	1	2
Buffalo	100	0	34	66
Charleston			0	
Chicago	4	0	1	3
Detroit	16	0	7	9
Fort Worth	17	0	9	8
Galveston	28	0	8	20
Honolulu			0	
Huntington	43	0	18	25
Jacksonville	148	0	85	63
Kansas City	14	0	6	8
Little Rock	7	0	1	6
Los Angeles	46	0	25	21
Louisville	20	0	9	11
Memphis	9	0	5	4
Mobile	28	0	10	18
Nashville	4	0	1	3
New England			0	
New Orleans	0	0	0	0
New York	31	0	6	25
Norfolk	6	0	2	4
Omaha	33	0	10	23
Philadelphia	2	0	0	2
Pittsburgh	3	0	1	2
Portland	30	0	15	15
Rock Island	17	0	6	11
Sacramento	42	0	9	33
San Francisco	10	0	4	6
Savannah	69	0	19	50
Seattle	52	0	15	37
St. Louis	38	0	8	30
St. Paul	113	0	47	66
Tulsa	2	0	1	1
Vicksburg	5	0	2	3
Walla Walla	3	0	1	2
Wilmington	126	0	53	73
Total	1080	0	425	655

Table B11: NWP 26 Industrial Shifts by District

District	FY 1998 PCN	FY 2000 Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	3	0	0	3
Albuquerque	2	0	1	1
Baltimore	0	0	0	0
Buffalo	31	0	8	23
Charleston			0	
Chicago	3	0	0	3
Detroit	2	0	1	1
Fort Worth	8	0	4	4
Galveston	21	0	10	11
Honolulu			0	
Huntington	11	0	3	8
Jacksonville	36	0	20	16
Kansas City	7	0	2	5
Little Rock	6	0	2	4
Los Angeles	1	0	1	0
Louisville	7	0	3	4
Memphis	7	0	2	5
Mobile	11	0	6	5
Nashville	11	0	2	9
New England			0	
New Orleans	1	0	1	0
New York	8	0	3	5
Norfolk	0	0	0	0
Omaha	18	0	7	11
Philadelphia	1	0	0	1
Pittsburgh	3	0	1	2
Portland	18	0	7	11
Rock Island	6	0	2	4
Sacramento	14	0	6	8
San Francisco	2	0	1	1
Savannah	22	0	6	16
Seattle	4	0	1	3
St. Louis	0	0	0	0
St. Paul	41	0	17	24
Tulsa	3	0	1	2
Vicksburg	4	0	1	3
Walla Walla	1	0	1	0
Wilmington	11	0	4	7
Total	324	0	122	202

Table B12: NWP 26 Transportation Shifts by District

District	FY 1998 PCN	FY 2000 Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	5	0	3	2
Albuquerque	30	0	30	0
Baltimore	1	0	0	1
Buffalo	19	0	12	7
Charleston			0	
Chicago	0	0	0	0
Detroit	13	0	13	0
Fort Worth	12	0	9	3
Galveston	3	0	3	0
Honolulu			0	
Huntington	7	0	3	4
Jacksonville	57	0	57	0
Kansas City	61	0	46	15
Little Rock	7	0	5	2
Los Angeles	27	0	26	1
Louisville	16	0	14	2
Memphis	8	0	6	2
Mobile	18	0	8	10
Nashville	15	0	8	7
New England			0	
New Orleans	0	0	0	0
New York	12	0	10	2
Norfolk	1	0	1	0
Omaha	128	0	105	23
Philadelphia	2	0	1	1
Pittsburgh	2	0	2	0
Portland	2	0	2	0
Rock Island	181	0	153	28
Sacramento	18	0	12	6
San Francisco	0	0	0	0
Savannah	26	0	22	4
Seattle	20	0	16	4
St. Louis	17	0	7	10
St. Paul	197	0	164	33
Tulsa	4	0	4	0
Vicksburg	2	0	1	1
Walla Walla	18	0	18	0
Wilmington	80	0	37	43
Total	1009	0	798	211

Table B13: NWP 26 Storm Water Management Shifts by District

District	FY 1998 PCN	FY 2000 Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska		0	0	
	1 10	0	6	1 4
Albuquerque Baltimore	1	0	1	0
Buffalo	17	0	7	10
Charleston	17	U	0	10
	1	0	0	1
Chicago Detroit	6	0	3	3
Fort Worth	15	0	9	6
Galveston	2	0	1	1
Honolulu		U	0	1
	7	0		E
Huntington	20	0	2	5 9
Jacksonville Kansas City	32	0	11 7	
Little Rock	10	0		25 9
		0	1	
Los Angeles	20		11	9
Louisville	6	0	3	
Memphis	1	0	1	0
Mobile	7	0	4	3
Nashville	3	0	0	3
New England		0	0	0
New Orleans	0	0	0	0
New York	10	0	6	4
Norfolk	2	0	1	1
Omaha	82	0	43	39
Philadelphia	0	0	0	0
Pittsburgh	1	0	0	1
Portland	2	0	1	1
Rock Island	7	0	2	5
Sacramento	11	0	5	6
San Francisco	1	0	1	0
Savannah	11	0	6	5
Seattle	3	0	2	1
St. Louis	9	0	1	8
St. Paul	46	0	22	24
Tulsa	3	0	1	2
Vicksburg	2	0	1	1
Walla Walla	0	0	0	0
Wilmington	10	0	3	7
Total	359	0	159	200

Table B14: NWP 26 Impoundment Shifts by District

District	FY 1998 PCN	FY 2000 Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	2	0	0	2
Albuquerque	0	0	0	0
Baltimore	0	0	0	0
Buffalo	8	0	0	8
Charleston			0	
Chicago	0	0	0	0
Detroit	9	0	0	9
Fort Worth	2	0	0	2
Galveston	0	0	0	0
Honolulu			0	
Huntington	5	0	0	5
Jacksonville	3	0	0	3
Kansas City	22	0	0	22
Little Rock	11	0	0	11
Los Angeles	2	0	0	2
Louisville	8	0	0	8
Memphis	3	0	0	3
Mobile	14	0	0	14
Nashville	13	0	0	13
New England			0	
New Orleans	0	0	0	0
New York	1	0	0	1
Norfolk	1	0	0	1
Omaha	29	0	0	29
Philadelphia	0	0	0	0
Pittsburgh	1	0	0	1
Portland	1	0	0	1
Rock Island	4	0	0	4
Sacramento	5	0	0	5
San Francisco	0	0	0	0
Savannah	76	0	0	76
Seattle	1	0	0	1
St. Louis	4	0	0	4
St. Paul	17	0	0	17
Tulsa	1	0	0	1
Vicksburg	3	0	0	3
Walla Walla	4	0	0	4
Wilmington	31	0	0	31
Total	281	0	0	281

Table B15: NWP 26 Treatment Facility Shifts by District

District	FY 1998 PCN	FY 2000 Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	1	0	0	1
Albuquerque	1	0	0	1
Baltimore	0	0	0	0
Buffalo	4	0	0	4
Charleston			0	
Chicago	0	0	0	0
Detroit	0	0	0	0
Fort Worth	2	0	0	2
Galveston	0	0	0	0
Honolulu			0	
Huntington	2	0	0	2
Jacksonville	5	0	0	5
Kansas City	4	0	0	4
Little Rock	1	0	0	1
Los Angeles	1	0	0	1
Louisville	3	0	0	3
Memphis	0	0	0	0
Mobile	1	0	0	1
Nashville	0	0	0	0
New England			0	
New Orleans	0	0	0	0
New York	4	0	0	4
Norfolk	0	0	0	0
Omaha	7	0	0	7
Philadelphia	8	0	0	8
Pittsburgh	0	0	0	0
Portland	0	0	0	0
Rock Island	1	0	0	1
Sacramento	3	0	0	3
San Francisco	1	0	0	1
Savannah	3	0	0	3
Seattle	0	0	0	0
St. Louis	6	0	0	6
St. Paul	6	0	0	6
Tulsa	1	0	0	1
Vicksburg	0	0	0	0
Walla Walla	1	0	0	1
Wilmington	6	0	0	6
Total	72	0	0	72

Table B16: NWP 26 Other Shifts by District

	FY 2000							
District	FY 1998 PCN	Non-Reporting	FY 2000 PCN	FY 2000 SP				
Alaska	0	0	0	0				
Albuquerque	37	0	17	20				
Baltimore	0	0	0	0				
Buffalo	62	0	25	37				
Charleston								
Chicago	14	0	5	9				
Detroit	12	0	6	6				
Fort Worth	7	0	3	4				
Galveston	9	0	4	5				
Honolulu								
Huntington	94	0	43	51				
Jacksonville	124	0	61	63				
Kansas City	34	0	16	18				
Little Rock	0	0	0	0				
Los Angeles	25	0	12	13				
Louisville	10	0	5	5				
Memphis	1	0	0	1				
Mobile	63	0	22	41				
Nashville	8	0	4	4				
New England								
New Orleans	1	0	0	1				
New York	14	0	6	8				
Norfolk	520	0	201	319				
Omaha	133	0	57	76				
Philadelphia	0	0	0	0				
Pittsburgh	2	0	1	1				
Portland	26	0	13	13				
Rock Island	48	0	19	29				
Sacramento	17	0	7	10				
San Francisco	3	0	1	2				
Savannah	71	0	26	45				
Seattle	21	0	8	13				
St. Louis	9	0	4	5				
St. Paul	433	0	183	250				
Tulsa	0	0	0	0				
Vicksburg	2	0	1	1				
Walla Walla	12	0	5	7				
Wilmington	86	0	36	50				
Total	1898	0	789	1109				

Table B17: NWP 3 Shifts by District

District	FY 1998 PCN	FY 2000 Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	64	0	64	0
Albuquerque	24	0	24	0
Baltimore	11	0	11	0
Buffalo	613	0	613	0
Charleston	013	Ŭ.	013	0
Chicago	2	0	2	0
Detroit	166	0	166	0
Fort Worth	28	0	28	0
Galveston	47	0	47	0
Honolulu	.,	v	.,	- U
Huntington	39	0	39	0
Jacksonville	182	0	182	0
Kansas City	63	0	63	0
Little Rock	15	0	15	0
Los Angeles	69	0	69	0
Louisville	75	0	75	0
Memphis	43	0	43	0
Mobile	20	0	20	0
Nashville	33	0	33	0
New England		v		
New Orleans	66	0	66	0
New York	163	0	163	0
Norfolk	146	0	146	0
Omaha	278	0	278	0
Philadelphia	28	0	28	0
Pittsburgh	22	0	22	0
Portland	110	0	110	0
Rock Island	108	0	108	0
Sacramento	64	0	64	0
San Francisco	18	0	18	0
Savannah	43	0	43	0
Seattle	202	0	202	0
St. Louis	62	0	62	0
St. Paul	623	0	623	0
Tulsa	18	0	18	0
Vicksburg	38	0	38	0
Walla Walla	77	0	77	0
Wilmington	135	0	135	0
Total	3695	0	3695	0

Table B18: NWP 7 Shifts by District

District	FY 1998 PCN	FY 2000 Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	13	0	13	0
Albuquerque	2	0	2	0
Baltimore	0	0	0	0
Buffalo	29	0	29	0
Charleston	29	U	29	0
Chicago	0	0	0	0
Detroit	22	0	22	0
Fort Worth	1	0	1	0
Galveston	10	0	10	0
Honolulu	10		10	0
Huntington	4	0	4	0
Jacksonville	57	0	57	0
Kansas City	11	0	11	0
Little Rock	2	0	2	0
Los Angeles	13	0	13	0
Louisville	17	0	17	0
Memphis	2	0	2	0
Mobile	1	0	1	0
Nashville	6	0	6	0
New England	0	0	0	0
New Orleans	3	0	3	0
New York	11	0	11	0
Norfolk	15	0	15	0
Omaha	24	0	24	0
Philadelphia	12	0	12	0
Pittsburgh	15	0	15	0
Portland	13	0	13	0
Rock Island	12	0	12	0
Sacramento	7	0	7	0
San Francisco	12	0	12	0
Savannah	7	0	7	0
Seattle	16	0	16	0
St. Louis	23	0	23	0
St. Paul	25	0	25	0
Tulsa	2	0	2	0
Vicksburg	1	0	1	0
Walla Walla	3	0	3	0
Wilmington	1	0	1	0
Total	392	0	392	0

Table B19: NWP 12 Shifts by District

District	FY 1998 PCN	FY 2000 Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	37	0	37	0
Albuquerque	46	0	46	0
Baltimore	2	0	2	0
Buffalo	130	0	130	0
Charleston				
Chicago	1	0	1	0
Detroit	31	0	31	0
Fort Worth	98	0	98	0
Galveston	46	0	46	0
Honolulu				
Huntington	89	0	89	0
Jacksonville	76	0	76	0
Kansas City	78	0	78	0
Little Rock	68	0	68	0
Los Angeles	87	0	87	0
Louisville	80	0	80	0
Memphis	29	0	29	0
Mobile	46	0	46	0
Nashville	173	0	173	0
New England				
New Orleans	131	0	131	0
New York	32	0	32	0
Norfolk	122	0	122	0
Omaha	1054	0	1054	0
Philadelphia	23	0	23	0
Pittsburgh	46	0	46	0
Portland	36	0	36	0
Rock Island	130	0	130	0
Sacramento	78	0	78	0
San Francisco	7	0	7	0
Savannah	97	0	97	0
Seattle	43	0	43	0
St. Louis	51	0	51	0
St. Paul	318	0	318	0
Tulsa	95	0	95	0
Vicksburg	96	0	96	0
Walla Walla	32	0	32	0
Wilmington	194	0	194	0
Total	3702	0	3702	0

Table B20: NWP 14 Shifts by District

District	FY 1998 PCN	FY 2000 Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	35	0	35	0
Albuquerque	73	0	67	6
Baltimore	3	0	3	0
Buffalo	41	0	35	6
Charleston				
Chicago	5	0	3	2
Detroit	38	0	37	1
Fort Worth	30	0	28	2
Galveston	12	0	12	0
Honolulu				
Huntington	71	0	71	0
Jacksonville	158	0	158	0
Kansas City	410	0	408	2
Little Rock	48	0	46	2
Los Angeles	70	0	68	2
Louisville	225	0	225	0
Memphis	24	0	22	2
Mobile	10	0	10	0
Nashville	142	0	138	4
New England				
New Orleans	51	0	51	0
New York	12	0	11	1
Norfolk	229	0	229	0
Omaha	359	0	352	7
Philadelphia	6	0	6	0
Pittsburgh	36	0	34	2
Portland	56	0	54	2
Rock Island	282	0	282	0
Sacramento	74	0	69	5
San Francisco	19	0	19	0
Savannah	51	0	35	16
Seattle	35	0	30	5
St. Louis	200	0	191	9
St. Paul	110	0	101	9
Tulsa	42	0	41	1
Vicksburg	22	0	21	1
Walla Walla	52	0	52	0
Wilmington	227	0	222	5
Total	3258	0	3166	92

Table B21: NWP 21 Shifts by District

FY 2000							
District	FY 1998 PCN	Non-Reporting	FY 2000 PCN	FY 2000 SP			
Alaska	1	0	1	0			
Albuquerque	0	0	0	0			
Baltimore	0	0	0	0			
Buffalo	0	0	0	0			
Charleston							
Chicago	0	0	0	0			
Detroit	0	0	0	0			
Fort Worth	4	0	1	3			
Galveston	0	0	0	0			
Honolulu							
Huntington	26	0	13	13			
Jacksonville	0	0	0	0			
Kansas City	1	0	1	0			
Little Rock	0	0	0	0			
Los Angeles	0	0	0	0			
Louisville	4	0	2	2			
Memphis	0	0	0	0			
Mobile	1	0	1	0			
Nashville	3	0	2	1			
New England							
New Orleans	0	0	0	0			
New York	0	0	0	0			
Norfolk	2	0	2	0			
Omaha	10	0	4	6			
Philadelphia	0	0	0	0			
Pittsburgh	2	0	1	1			
Portland	0	0	0	0			
Rock Island	1	0	1	0			
Sacramento	1	0	0	1			
San Francisco	0	0	0	0			
Savannah	0	0	0	0			
Seattle	0	0	0	0			
St. Louis	5	0	3	2			
St. Paul	0	0	0	0			
Tulsa	1	0	1	0			
Vicksburg	1	0	0	1			
Walla Walla	0	0	0	0			
Wilmington	0	0	0	0			
Total	63	0	33	30			

Table B22: NWP 29 Shifts by District

District	FY 1998 PCN	FY 2000 Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	27	0	14	13
Albuquerque	1	0	0	13
Baltimore	0	0	0	0
Buffalo	2	0	0	2
Charleston		U	0	
Chicago	2	0	1	1
Detroit	25	0	14	11
Fort Worth	0	0	0	0
Galveston	3	0	2	1
Honolulu	3	0	2	1
Huntington	1	0	1	0
Jacksonville	16	0	8	8
Kansas City	0	0	0	0
Little Rock	0	0	0	0
Los Angeles	2	0	2	0
Louisville	1	0	1	0
Memphis	1	0	0	1
Mobile	3	0	2	1
Nashville	1	0	1	0
New England		, , ,	-	Ü
New Orleans	81	0	29	52
New York	2	0	1	1
Norfolk	10	0	10	0
Omaha	7	0	3	4
Philadelphia	1	0	0	1
Pittsburgh	0	0	0	0
Portland	3	0	2	1
Rock Island	1	0	0	1
Sacramento	2	0	1	1
San Francisco	0	0	0	0
Savannah	3	0	1	2
Seattle	13	0	6	7
St. Louis	2	0	1	1
St. Paul	11	0	4	7
Tulsa	0	0	0	0
Vicksburg	0	0	0	0
Walla Walla	5	0	3	2
Wilmington	0	0	0	0
Total	226	0	107	119

Table B23: Other NWP Shifts by District

District	FY 1998 PCN	FY 2000 Non-Reporting	FY 2000 PCN	FY 2000 SP
Alaska	183	0	183	0
Albuquerque	92	0	92	0
Baltimore	1	0	1	0
Buffalo	649	0	649	0
Charleston				
Chicago	6	0	6	0
Detroit	548	0	548	0
Fort Worth	46	0	46	0
Galveston	124	0	124	0
Honolulu				
Huntington	155	0	155	0
Jacksonville	472	0	472	0
Kansas City	613	0	613	0
Little Rock	78	0	78	0
Los Angeles	142	0	142	0
Louisville	125	0	125	0
Memphis	23	0	23	0
Mobile	59	0	59	0
Nashville	790	0	790	0
New England				
New Orleans	94	0	94	0
New York	174	0	174	0
Norfolk	563	0	563	0
Omaha	545	0	545	0
Philadelphia	105	0	105	0
Pittsburgh	63	0	63	0
Portland	169	0	169	0
Rock Island	309	0	309	0
Sacramento	142	0	142	0
San Francisco	47	0	47	0
Savannah	88	0	87	1
Seattle	541	0	540	1
St. Louis	97	0	97	0
St. Paul	1654	0	1653	1
Tulsa	40	0	40	0
Vicksburg	50	0	50	0
Walla Walla	233	0	233	0
Wilmington	221	0	221	0
Total	9241	0	9238	3

Table B24. Alternative to Replacement Package Estimated Permitting Changes for FY 1998 Activities Authorized under NWP 26

Activity Category,	Changes for Reported (PCN) Activities				Changes for Unreported(Non-PCN) Activities		
Applicable New/Modified NWP #	# FY 98 PCNs ¹	# Shifting to Non-PCN	# Shifting to PCN	# Shifting to SP	# FY 98 Non-PCN ²	# Shifting to PCN	# Shifting to SP
Institutional, 39	197	0	143	54	53	53	0
Agricultural, 40	508	24	309	175	124	124	0
Silvicultural, None	12	0	0	12	12	0	12
Mining Aggregates, 44	38	0	23	15	29	29	0
Mining Other, 44	73	0	47	26	57	57	0
Retail Individual, 39	213	0	154	59	59	59	0
Retail Multiple, 39	246	0	156	90	58	58	0
Residential Multiple, 39	1,080	0	741	339	279	279	0
Industrial, 39	324	0	218	106	81	81	0
Transportation, 14	1,009	0	767	242	326	326	0
Storm Water, 43	359	0	256	103	2	2	0
Impoundment, None	281	0	0	281	281	0	281
Treatment, None	72	0	0	72	72	0	72
Other, Various	1,898	0	1,205	692	548	355	193
Total	6,310	24	4,018	2,268	1,981	1,423	558

^{1:} Not all rows add up due to rounding.

^{2:} This does not reflect total NWP 26 activities that did not report in FY 98. Rather, it represents those FY 98 unreported activities that would now report and incur regulatory costs under the replacement package. See text for explanation.

APPENDIX C:

Estimation of Corps Administrative Costs for Processing Permits

C.1 Introduction

It was hypothesized that the amount of each district's annual operating budget dedicated to permitting is dependent on the number and types of permits that the district processes per year. Equation (C.1) represents the hypothesized relationship.

(C.1) Annual Permit Budget_d =
$$\beta_0 + \beta_1 *SP_d + \beta_2 *LOP_d + \beta_3 *RGP_d + \Sigma_i \beta_i *NWP_{id}$$

Where

Subscript d refers to the district

Subscript i refers to nationwide permit number

 β_0 refers to the intercept

Annual Permit Budget = annual amount spent on permitting

SP = number standard individual permits processed per year

LOP = number letters of permission processed per year

RGP = number regional general permits processed per year

NWP_i = number of nationwide permit i processed per year

As there are only 38 districts and equation (C.1) has 43 independent variables, the equation cannot be estimated using a single year of data.²⁸ At the drafting of this report, district-level budget data were only available for FY 98. To overcome the data constraints, equation (C.2) was specified.

(C.2) Annual Permit Budget_d =
$$\beta_0 + \beta_1$$
*SP-LOP-RGP DUM_d + β_2 *SP-LOP_d + β_3 *NWP_d + β_4 *RGP_d

Where

Subscript d refers to the district

Annual Permit Budget = annual amount spent on permitting

SP-LOP-RGP DUM = 1 if the district processed more SP+LOP than NWP and the district processes more RGP than NWP, 0 otherwise

SP-LOP = number standard individual permits plus the number of letters of permission processed per year

NWP = number of nationwide permits processed per year

RGP = number regional general permits processed per year

The first two elements of equation (C.2) may be interpreted as the district's fixed costs of operating a permit program. The second element asserts that districts that issue other permitting options (SP, LOP, and RGP) more often than nationwide permits face different fixed costs than districts that rely more heavily on nationwide permits. The fourth element asserts all nationwide permits cost the same amount to process. The last element asserts that all regional general permits cost the same amount to process.

C.2 Estimation, Results, and Interpretation

Data for the dependent variable in equation (C.2) were derived from the Corps' FY 98 Fund Availability Statement. Of the \$104.8 million dollars in "Obligations Incurred" by all districts in FY 98, \$80.1 million

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²⁸ One year provides 38 observations which is less than the number of variables. Two years data provide 76 observations (two per district), sufficient to estimate equation C.1

(76.4%) were for permitting. For each district, the amount of "Obligations Incurred" in FY 98 was multiplied by 0.764 to estimate the district's annual permit budget. Data for the dependent variables were from the RAMS database.

Equation (C.2) was estimated by ordinary least squares. The results of the estimation are presented in Table C1.

Table C1: Estimated Coefficients for Equation C.2²⁹

N = 34	$R^2 = 0.69$	Adj. $R^2 = 0.65$	$F-Stat^{30} = 16.18$
Independent Variable	Estimated Coefficient	Standard Error	P-Value
Intercept	967140	170962.1	0.0000041
SP-LOP-RGP DUM	1008930	387715.9	0.014438
SP-LOP	2033	536.48	0.000706
NWP	503	139.37	0.001147
RGP	170	78.78	0.039506

As with any regression equation, the estimated coefficients in Table C.1 are sensitive to the specification of independent variables in and functional form of equation (C.2). From a statistical perspective, the results appear sound – the adjusted R^2 and F-statistic indicate the equation is explaining a substantial portion of the variation in the data, and the p-values indicate all of the coefficients of the independent variables are significantly different than zero (p = 0.05). From an economic perspective, however, these results should be regarded as first-cut estimates and used with caution. That being said, the estimated equation produced the following results.

The estimated coefficients suggest that districts incur an additional \$2033 in obligations per SP and LOP processed, over and above the fixed costs of the permitting program. Processing a nationwide permit adds \$503 to a district's obligations. RGP's are relatively cheap to process, adding \$170 in obligations per permit processed. The additional obligations per permit may be loosely interpreted as the average administrative cost of processing the permit.

The estimated coefficient for the dummy variable suggests that those districts that process more other types of permits than nationwide permits require about \$1 million more obligations annually than districts that process more nationwide permits than other permit types. This may be loosely interpreted as the additional fixed costs needed when other permit types (SPs, LOPs, and RGPs) account for more than 50% of the districts permitting workload.

²⁹ Charleston, Honolulu, and New England districts were not included in the analysis due to a lack of data availability at the time of the study. Alaska district was eliminated from the data because it was considered an outlier.

³⁰ The F-statistic indicates whether the equation is meaningful in the aggregate.

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APPENDIX D

Systemic Effects of the Replacement Package on the Section 404 Permit Program: Corps District Viewpoints

Table D1. Systemic Effects of the Replacement Package: Corps District viewpoints.

Eight Corps districts were asked to answer the following questions about potential systemic effects of the proposed replacement package on the Section 404 permit program:

Corps District	Question 1: Indicate district activities that would likely be limited or foregone as a result of implementation of the proposed Nationwide Permit (NWP) replacement package, and the expected consequences of this change.	Question 2: Indicate impacts to Standard Permit (SP) processing that might occur as a result of implementation of the proposed NWP replacement package. For example, do you foresee increased processing time for SPs across the board? If so, what magnitude change in terms of days or percent increase.
1	Activities more limited than they are now include: Compliance/unauthorized activities; jurisdictional assistance; developing additional General Permits (GP)/State Programmatic General Permits (SPGP); coordination with agencies; public education	Impacts to SP: reduced quality of the SP evaluation, increased processing time probably by as much as 25% given the significantly increasing workload; less coordination with agencies.
	coordination with agencies, public education	The other thing that has not been discussed is the human factor. Our Project Managers are stretched thin now. NWP's and the SPGP has helped. It appears we are now in the process of reversing this, so Project Managers will continue to experience increasing stress levels, which lead to more turnover, more sick leave and in general morale is expected to drop, and already has given the proposed changes to the nationwide program.
2	Main effect would be decreased customer service, manifested as increased time to return phone calls, reduced likelihood of being able to attend preapplication meetings, decreased efforts at public education and other outreach. This could also result in decreases in the number of permit evaluation site visits compliance inspections. Development of new regulatory tools could also be impaired. Could also result in shift of manpower from enforcement to permit evaluation.	We do expect an across-the-board increase in processing time for SPs, due both to the increase in amount of effort (i.e., labor hours) necessary for the average nationwide, and due to the increase in the number of cases that will need to be handled as SPs. Best estimate we could come up with is <i>very</i> tentative – perhaps 50% increase in average total processing time.
3	Although we estimate the increased workload for our GP/Letter of Permission proposal should be roughly equivalent to that for the NWPs, we have some concerns about our ability to effectively manage the increased workload. NOTE: This district is pursuing GP/Letter of Permission replacement proposals rather than implementation of NWPs.	The GP/Letter of Permission replacement proposals are not expected to significantly affect the number of SPs done annually in the district. However, they will result in more projects receiving a case-by-case review and being subjected to interagency coordination, mostly under 404 LOP procedures. These added work requirements would be substantial but we estimate they would be less than would occur if we were to pursue implementation of the new NWPs.
4	Discretionary actions such as enforcement, compliance, site visits, pre-application consultation, public awareness, watershed based permitting and etc. would be adversely affected. Mitigation required by permits would not be accomplished due to decreased compliance. The complexity of the NWPs and the new general conditions may lead to additional violations, which	Shift of NWP 26 activities to SPs as well as the complexity of the replacement NWPs and general conditions could be expected to increase overall workload resulting in approximately a 10 percent increase in processing time for SPs.

Corps District	Question 1: Indicate district activities that would likely be limited or foregone as a result of implementation of the proposed Nationwide Permit (NWP) replacement package, and the expected consequences of this change.	Question 2: Indicate impacts to Standard Permit (SP) processing that might occur as a result of implementation of the proposed NWP replacement package. For example, do you foresee increased processing time for SPs across the board? If so, what magnitude change in terms of days or percent increase.
	may not be pursued. Also, this complexity may lead to additional evaluation time to decide whether an action complies with a NWP or whether additional scrutiny is needed.	
5	Our already limited enforcement program would be nonexistent.	
6	The proposed replacement NWPs will substantially increase the workload of the district's Regulatory program. Presently, we do not have sufficient funding to fill our FTE allocation. The proposed NWPs will exacerbate this situation and force us to shift resources from enforcement, compliance and preapplication consultation to the processing of standard permit applications. The Regulatory Program becomes a paper tiger without effective compliance and enforcement programs, eventually becoming ineffective and irrelevant once the public views it as a voluntary permit program. Preapplication coordination is in many ways the most effective part of the Regulatory program, because our staff is able to work collaboratively with prospective applicants in the early planning stages to suggest alternatives and modifications which reduce impacts. Reducing our preapplication coordination will mean we will see more permit applications for larger environmental impacts, and we will be forced to deal with them on an adversarial basis.	We anticipate that over 60% of the projects which currently qualify for nationwide permits in the district will require processing as standard individual permits due to the restrictive nature of the proposed NWPs (e.g., floodplain, critical and impaired waters, and the water qualify conditions). We believe our permit decisions will be the same whether the project is processed as an NWP or standard permit application. However, with a standard permit, we are required to issue a public notice, perform an off-site alternatives analysis, coordinate with the federal and state resource agencies, and fully consider comments from the agencies and the public. This will substantially increase processing time without adding any environmental safeguards to the project.
7	We have already limited our activities to performing the portions of the Regulatory Program that we consider to be essentialWe have already stopped surveillance flights, cut back on travel and training, severely limited our field visits, and virtually stopped performing on site wetland delineations. With out additional manpower to help handle the workload, we expect a growing backlog of permit cases and increased delays for the regulated public. With unreasonable delays, some applicants go ahead and perform the work, and the project turns into an enforcement case. We believe that the proposed changes to the NWPs will create a great deal of confusion and frustration for the public.	Further restricting the use of the NWPs can only drive the number of standard permits upward. Standard permits take longer to process. Since we can not start to keep up with the workload that we currently have, adding additional standard permits will result in increased processing times for all actions.
8	Activities such as developing Regional Permits, bringing Mitigation Banking on-line, program developments (like the In Lieu Fee Arrangements) and staff training will all be effected by the changing program. There will need to be program	It is possible that there will not be significant changes to SP processing times because there will be no changes to the SP process that will require project managers to learn or explain to resource agencies. The number of SPs may not significantly increase because some projects that are currently evaluated as

Corps District	Question 1: Indicate district activities that would likely be limited or foregone as a result of implementation of the proposed Nationwide Permit (NWP) replacement package, and the expected consequences of this change.	Question 2: Indicate impacts to Standard Permit (SP) processing that might occur as a result of implementation of the proposed NWP replacement package. For example, do you foresee increased processing time for SPs across the board? If so, what magnitude change in terms of days or percent increase.
development: For example the public will need to be made aware of those things that the Corps project managers will need to evaluate their permits with respect to the general conditions. Once Corps staff understands what is needed, letter templates and public notices will be prepared. Then, most of the actual work will be transferred to the public. The consequence is that initially, permit evaluation will fall behind. However, once the staff is trained and becomes used to using the new permits, workload should level out.		SPs will qualify for authorization as an NWP. This will help balance the NWP workload that will transfer to SPs.

APPENDIX E

Permitting Effects of General Conditions 25-27: Corps District Estimates

Table E1. Corps District Estimates of the Effects of General Conditions 25-27 on Permitting.

Seven districts provided estimates of the effects of General Conditions 25-27 based on varying estimating techniques (note: St. Paul district is implementing alternatives to NWPs). Some were based on project manager personal estimates; other were based limited sampling of NWP 26 actions. All districts estimated that the 100-year floodplain condition (General Condition 27) would effect the NWPs the greatest of the three conditions

District	Percent of shifts from NWP 26 due to General Conditions 25 – 26 – 27
Jacksonville	75
Norfolk	85
Buffalo	14.5
Portland	33
Omaha	45
Fort Worth	94
Sacramento	20
St. Paul	Not applicable

Figure E1. NWPs and the 100-year floodplain, Tarrant County, Fort Worth District. The Map below illustrates the extent to which General Condition 27 (Floodplains) would affect activities authorized under NWPs 12, 14, and 26 in Tarrant County, Texas in FY 1998. During this time period, the Fort Worth District issued 42 NWPs of which 39 (93%) were located within the 100 year floodplain. Under the replacement package, these 39 activities would have been evaluated under the standard permit process or, in the case of NWPs 12 and 14, the applicants would have to ensure that the activity does not result in more than minimal effects on hydrology, flow regime or volume of waters.

